Faculty of Science

BIOR59, Biology: Genetic Analysis I, 7.5 credits

Biologi: Genetisk analys I, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2008-06-11 and was last revised on 2016-02-24. The revised syllabus applies from 2016-07-01, autumn semester 2016.

General Information

The course is an elective course for a degree of Bachelor of Science in Biology or Molecular Biology, and for a degree of Master of Science in Biology, Molecular Biology or Bioinformatics.

Language of instruction: English

Main field of studies	*Depth of study relative to the degree requirements*
Molecular Biology	A1N, Second cycle, has only first-cycle course/s as entry requirements
Biology	A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is that students should have acquired the following knowledge and skills:

Knowledge and understanding

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

- explain the dynamics of the inheritance process from cell- to population level
- account for some of the practical applications of genetics
- describe different working methods within genetics

Competence and skills

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

- apply genetic working methods
- solve simple genetic problems
- present results of genetic analyses orally and in writing

Course content

- apply analysis of inheritance in crosses and pedigree data
- explain the use and properties of genetic markers
- explain non-Mendelian inheritance and epigenetic phenomena
- understand basic genetic linkage analysis and gene mapping
- account for applications in medical genetics
- perform analysis of complex traits
- understand classical population genetics
- describe the evolution of genetic and reproductive systems

Course design

The teaching consists of lectures, calculation exercises, laboratory sessions, written assignments, project work and study visits. Participation in laboratory sessions, project work and study visits, and thereby other integrated teaching, is compulsory. Written assignments are compulsory.

Assessment

Examination takes place in the form of smaller written examinations during the course, a final written examination at the end of the course, and through compulsory parts. 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 examinations and approved compulsory parts, are required.

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

Entry requirements

For admission to the course, 90 credits of scientific studies including knowledge corresponding to MOBA01 Cell Biology 15 credits, BIOA01 Genetics and Microbiology 15 credits, as well as 15 credits in chemistry, is required. English 6/B.

Further information

The course may not be included in a degree together with BIO616 Genetics 15 credits, or BIOR15 Genetic Analysis 15 credits.

Subcourses in BIOR59, Biology: Genetic Analysis I

Applies from V09

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