Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Syllabus

BI1231.1 Genetics and animal breeding, 7.5 credits

Genetik och avelsarbete

The course is given Ethology and Animal Welfare - Bachelor´s Programme and as course independent of study programme

Syllabus discontinued 12 March 2018

Version 1 in Slukurs. Corresponds to version 1, 2, 3 and 4 in Ladok

Syllabus approved

28 January 2014

The version applies to students admitted from autumn 2014

The version is not a module version

Subjects

Biology

Education cycle

First cycle

Modules

Title	Code	Credits
Single module	0101	7.5

Advanced study in the main field

First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

Grading scale

5:Pass with Distinction, 4:Pass with Credit, 3:Pass, U:Fail
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

Swedish

Prior knowledge

Knowledge equivalent to 45 credits biology including 10 credits evolutionary biology and 5 credits biochemistry, as well as approved participation in the course Practical experimental design and data processing in biology, 7,5 credits, or equivalent.

Objectives

On completion of the course, the student should be able to:
- explain basic genetic concepts with correct words in speech and writing,
- explain what genetic variation implies, what that causes it and how it can be changed and preserved,
- describe various types of genetic properties, how they are influenced by selection and carry out genetic calculations,
- describe various types of breeding programmes and assess their consequences for the animals' welfare,
- interpret general articles about genetics and animal breeding and critically review articles and programmes about genetics and animal breeding in Swedish mass media,
- discuss ethical questions linked to genetics and animal breeding and formulate your own position on such issues.

Content

The course contains the following subject blocks: biological variation, function of genes, classical genetics, molecular genetics, population genetics, genetic parameters, breeding objectives, genetic evaluation, selection, genetic changes, breeding program, genetics of health traits and behavioural genetics. Ethical questions are treated continuous during the course. In the course, calculation exercises are included, such

as heritability calculations with different methodology and PBL-case where the students discuss genetic issues. Within this course problem-solving, communication in speech and writing and argumentation technique is trained. The course consists of lectures, study visits, group work, teacher-supervised exercises and PBL-cases.

Formats and requirements for examination

Passed written or oral test, passed written assignments and participation in compulsory study visits, group assignments and group meetings.

- If the student fails a test, the examiner may give the student a supplementary assignment, provided this is possible and there is reason to do so.
- If the student has been granted special educational support because of a disability, the examiner has the right to offer the student an adapted test, or provide an alternative assessment.
- If changes are made to this course syllabus, or if the course is closed, SLU shall decide on transitional rules for examination of students admitted under this syllabus but who have not yet passed the course.
- For the examination of a degree project (independent project), the examiner may also allow the student to add supplemental information after the deadline. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Transitional regulations

• Exams: At least three retake sessions (renewed exams) must be offered within two years of the decision to cancel the course.
• Compulsory elements: At least one opportunity for a retake session must be offered within two years of the decision to cancel the course.

Additional information

Costs for study visits can be added.

- The right to take part in teaching and/or supervision only applies to the course date to which the student has been admitted and registered on.
- If there are special reasons, the student may take part in course components that require compulsory attendance at a later date. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Responsible department

Department of Animal Breeding and Genetics

Supplementary Information

Finalized by: Vice dekan VH-fak
Biology Area: Genetics
Replacement course: BI1142