Basic Principles of Genetics

Module coordinator
Dean of Studies Biologie (Biology)

Module offered by
Faculty of Biology

ECTS 3

Method of grading numerical grade

Duration 1 semester

Module level undergraduate

Other prerequisites
Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

Contents
Students will become familiar with classic Mendelian genetics as well as modern findings on the transmission of genetic information, potential errors in the transmission of genetic information and the respective consequences for the phenotype. The module will discuss the structural and molecular fundamentals of the DNA as well as the structure of the eukaryotic genome. Building on this knowledge, the module will provide students with an overview of methods in genetics. Having been simplified for teaching purposes, these methods will then be applied in experiments on the model organism Drosophila melanogaster.

Intended learning outcomes
Students are able to recognise the DNA as a repository of information that is a key factor determining the phenotype of an organism. They understand that regulation is necessary during genome expression and recognise the principles behind the respective mechanisms. In addition, students are able to discuss methods in genetics as well as the relevance these have to medicine.

Courses
V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment
written examination (approx. 30 to 45 minutes)

Allocation of places
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Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
§ 41 (1) 3. "Genetik oder Mikrobiologie"

Module appears in
First state examination for the teaching degree Grundschule Biology (2009)
First state examination for the teaching degree Hauptschule Biology (2009)
First state examination for the teaching degree Realschule Biology (2009)
First state examination for the teaching degree Mittelschule Biology (2013)