Faculty of Medicine

BIMA52, Biomedicine: Developmental Biology, 13.5 credits

Biomedicin: Utvecklingsbiologi, 13,5 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by Committee for Biomedical, Medical and Public Health Education on 2015-04-28 to be valid from 2015-04-28, autumn semester 2015.

General Information

The course is compulsory in the biomedical Bachelor's programme and is included in its semester 5.

Language of instruction: English

Main field of studies	*Depth of study relative to the degree requirements*
Biomedicine	G2F, First cycle, has at least 60 credits in first-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding

On completion of the course, the students shall be able to

- account for the basic mechanisms that govern the development of an embryo
- explain the more central embryonic development processes,
- account for the most important mechanisms in cell-cell-kommunikation and signal paths involved in early development,
- compare advantages/disadvantages and usages/limitations of the most important model systems that are used within the developmental biology.

Competence and skills

On completion of the course, the students shall be able to

- search, present relevant information from scholarly journals with utvecklingsbiologisk issues and put in it in his biological contexts and assess its relevance
- apply critical thinking in assessment and explanation of utvecklingsbiologisk issues.

Judgement and approach

On completion of the course, the students shall be able to

- reflect on social consequences of utvecklingsbiologisk research and knowledge and discuss these with individuals on the same education cycle.

Course content

Basic principles within the developmental biology are presented and special emphasis is placed at model system such as drosophila and mice. The course treats the most important processes within early embryonic development, such as gametogenesis, oogenes, fertilisation and early cell division with klyvningsmönster and asymmetries, axle formation, gastrulering, nervutveckling, extremitetsutveckling och-regeneration, organbildning and stem cells. The course also gives insights in how utvecklingsbiologisk knowledge be utilised at the establishment of animal models of studies of disease and drug effects.

Course design

All course is based on problem-based learning (PBL) and consists of week-long themes. A typical week starts with two stödföreläsningar and is completed with summarising comments. In between, the course participants in tutorgrupper work (two meetings/week) and individual. Some parts are illustrated with metodintroduktioner and demonstrations/shorter laboratory sessions and discussions that own space in an utvecklingsbiologisk research laboratory. Artikelpresentationer give the students exercise to read extract relevant contents and present scientific articles within the subject area orally. On every occasion, articles of two students are presented. During the seminar, occasion for issues and discussions are given, where all are expected to participate. The week is completed with comments to problems that arose in the tutorgrupperna.

Assessment

The expected learning outcomes concerning knowledge and understanding be examined through written examination.

The expected learning outcomes respect skills and abilities and judgement and approach are examined in connection with the artikelpresentationerna.

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

Grades

Marking scale: Fail, Pass.
To pass the entire course, passed written examination, active participation in PBL-övningar and laboratory sessions are required and passed artikelpresentationer.

Entry requirements

Two years studies on Bachelor's programme in biomedicine including courses BIMA34 and BIMA35. Or 90 credits higher education extensive smallest 30 credits chemistry (of which at least 15 credits biochemistry), 30 credits cell biology and 15 credits physiology.

Further information

The course corresponds to largely earlier BIM044.

Subcourses in BIMA52, Biomedicine: Developmental Biology

Applies from H08

0801 Developmental Biology, 13,5 hp
Grading scale: Fail, Pass