DD2400 Cellular and Molecular Biology 15.0 credits

Cell- och molekylärbiologi

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for DD2400 valid from Spring 2009

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Biotechnology,Electrical Engineering

Specific prerequisites

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After the completed course, the student must be able to- use the terminology of cell and molecular biology- describe basic concepts in cell and molecular biology in a biomedical and medical context
- describe basic methods in cell biology- relate basic knowledge in cell and molecular biology to bioinformatics, immunology, microbiology and molecular medicine
in order to be able to
- integrate basic knowledge in cell and molecular biology with the other discplins in cell and molecular biology

Course contents

The course consists of six modules: molecular biology, cell biology, bioinformatics, immunology, microbiology and molecular medicine.Course module 1 covers basic concepts and terminology in molecular biology, such as DNA and proteins. Course module 2 covers the overall structure of the cell, and the flow of signals to and within the cell for regulation of cellular and molecular processes, and a practical excercise in cell biology. Module 3 covers bioinformatics, including sequence comparisons, sequence alignments and homology searches and a compulsory practical computer excercise. Module 4 cover the basic concepts of immunology, such as immunoglobulins, cytokines, T-B cell synergy, MHC, killer cells and innate immunity. Module 5 covers basic concepts in microbiology. Module 6 covers cell and molecular biology aspects of common diseases and illnesses.

Course literature

Alberts B, Lewis J, Johnson A,: Molecular biology of the cell, 5th ed, 2008, Garland Science, ISBN 9780815341055.

Examination

- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 13.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

Computer excercises and a written summative examination.

Ethical approach

- All members of a group are responsible for the group's work.

- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.