BB2170 Drug Development 6.0 credits

Läkemedelsutveckling

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 BB2170 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Biotechnology

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 course you should be able to describe and discuss the different steps in the process of drug development.

After passing the course, the student should be able to:

- define important concepts within drug discovery and drug development, state which types of studies are used in the process of drug development, and describe which methods are employed in the different steps
- explain what effects administration, absorption, distribution and elimination have on the dosing of drugs and their equilibrium concentrations, as well as drawing dose-response curves for different types of ligands
- state which are the commercially important therapeutic areas, describe which classes of drug targets are common, and make an analysis of why these are the dominating classes
- describe and compare classic strategies for the generation of drug substances to the use of combinatorial libraries and screening; identify advantages and disadvantages
- identify important differences between different classes of drug substances (proteins, peptides and small, organic molecules) with respect to pharmacokinetics, production, safety and therapeutic areas
- prioritize between different candidate drugs for further development from of their chemical and preclinical properties

Course contents

The lectures will cover a range of aspects of drug development and give recent examples from the pharmaceutical industry. Topics that will be discussed include pharmacology, target identification and validation, methods for generation of active substances, different classes of substances and their pharmacological properties, safety requirements and documentation in industrial production, entrepreneurship and development of young research companies, and patent law in the context of biotechnology and drug development.

Course literature

Hand-out compendiums.

Examination

- LIT1 - Literature Task, 2.0 credits, grading scale: P, F
- TEN1 - Written exam, 4.0 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

Written examination (TEN1; 4,0 credits, grading scale A - F) and Litterature task (LIT1; 2,0 credits, grading scale Pass/Fail).

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.