BIO523 Drug Development, 7.5 credits

Utveckling av läkemedel, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Chemistry and Molecular Biology on 2017-07-03 and was last revised on 2022-05-06 to be valid from 2022-05-13, autumn semester of 2022.

Field of education: Science 100%
Department: Department of Chemistry and Molecular Biology

Position in the educational system

This is a second-cycle course in Biology and is designed to provide an advanced knowledge in Drug Development. The course can be included as a part of a Bachelor's degree in Molecular Biology and Biology, or as part of a Master's degree in Molecular Biology, Biology or Genomic and Systems Biology. The course is also offered as a separate course.

Main field of studies	*Specialization*
Biology	A1N, Second cycle, has only first-cycle course/s as entry requirements
Molecular Biology with Specialization in Genomics and Systems Biology	A1N, Second cycle, has only first-cycle course/s as entry requirements
Molecular Biology	A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

For admission to the course, approved courses of 120 credits in the field of natural science are required, of which at least 15 credits must be within the main subject molecular biology and 15 credits in the main subject chemistry or equivalent. In addition, Applicants must prove their knowledge of English: English 6/English B from

Swedish Upper Secondary School or the equivalent level of an internationally recognized test, for example TOEFL, IELTS.

Learning outcomes

After completion of the course the student is expected to be able to:

Knowledge and understanding
- Describe and understand the different processes and approaches used in drug development.
- Have knowledge about different working methods used in industry

Competence and skills
- Be able to describe the concepts and terminology within the subject field.
- Be able to read and understand scientific articles within the subject.

Judgement and approach
- Show ability to analyze, evaluate and critically discuss achieved results and other information, both written and orally.
- Be able to critically evaluate scientific articles in the subject.

Course content

The course is designed to provide information to modern thinking in drug development, with emphasis on the earlier part of the process (drug discovery). Among other things, the following steps are taken up: identification and validation of new cellular target molecules; interactions between inhibitor and target molecule; optimization of small molecules for better binding and stability; bioinformatics; genetic model organisms; methods for high throughput screening. Invited lecturers will address various applied and basic scientific aspects and opportunity will be given to study practical ways of working.

Form of teaching

The course is based on lectures, study visits with demonstrations and other groups exercises as shown in the course schedule. All moments except the lectures are compulsory.

Language of instruction: English

Assessment

Exams are organized at the end of the course or during the course of the teaching.

Missed compulsory sessions may be made up during the course when that is possible, or the next time the course runs.

A student who has failed a test twice has the right to change examiner, if that is possible. A written application should be sent to the Department.

In cases where a course has been discontinued or major changes have been made a student should be guaranteed at least three examination occasions (including the ordinary examination occasion) during a time of at least one year from the last time the course was given.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

Course evaluation

An evaluation will be done at the end of the course. The results of the evaluation will be communicated to the students and will function as a guide for the development of the course.