



DEPARTMENT OF CHEMISTRY AND MOLECULAR BIOLOGY

BIO524 Drug discovery and development, 15 credits

Läkemedelsutveckling, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Chemistry and Molecular Biology on 2020-01-27 to be valid from 2020-01-28, autumn semester of 2020.

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

Molecular Biology with Specialization in Genomics and Systems Biology

Molecular Biology

Biology

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

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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

On successful completion of the course the student will 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

This course shall focus on a building an overall understanding of the discovery and development of novel pharmaceuticals (drug discovery/development), covering a wide spectrum of target selection, lead discovery/optimization, non clinical in vitro/in vivo safety and efficacy studies, clinical trials, and market authorization. Examples are also given of existing drugs, how they have been developed, and their mechanisms of action. The course is mostly theoretical, but in certain parts, practical demonstrations are also included.

Form of teaching

The course is based on lectures and study visits with demonstrations. Each student will also do a individual project work in the form of writing a scientific report and giving an oral presentation at the end of the course. All moments except the lectures are compulsory.

Language of instruction: English

Assessment

The 50% of the final grade is based on the written examination and 50% is based on the individual literature project.

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.

Grades

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

Course evaluation

A written evaluation is 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.