



# BB2472 Applied Gene Technology 5.0 credits

Tillämpad genteknologi

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 BB2472 valid from Autumn 2016

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Biotechnology

## Specific prerequisites

### **Admission requirements for programme students at KTH:**

At least 150 credits from grades 1, 2 and 3 of which at least 100 credits from years 1 and 2, and bachelor's work must be completed. The 150 credits should include a minimum of 20 credits within the fields of Mathematics, Numerical Analysis and Computer Sciences, 5 of these must be within the fields of Numerical Analysis and Computer Sciences, 20 credits of Chemistry, possibly including courses in Chemical Measuring Techniques and 20 credits of Biotechnology or Molecular Biology.

### **Admission requirements for independent students:**

A total of 20 university credits (hp) in life science courses (e.g. biochemistry, microbiology and gene technology/molecular biology). 20 university credits (hp) in mathematics. Documented proficiency in English corresponding to English B.

## **Language of instruction**

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

## **Intended learning outcomes**

Following completion and passing the course you should be able to:

- I. Describe, illustrate and relate different techniques in the fields of genomics and transcriptomics
- II. Critically evaluate, select and apply the most appropriate technique(s) in different biological and medical studies.
- III. Discuss and suggest strategies to tackle and solve challenging problems in various research studies.
- IV. Construct and create biologically relevant studies by employing one or more of the discussed tools.

## **Course contents**

The course aims to give detailed insight into the techniques and technological trends in the fields of genomics and transcriptomics, to build up the necessary foundations for further understanding of association studies, pharmacogenomics, forensics, population genetics, diagnostics, medicine and drug development. In addition to lectures, the course involves a literature workshop of selected articles, which will be performed in groups. This project requires teamwork and planning, and participation as well as presence on the workshop days is compulsory. The course also includes assignments.

## **Course literature**

Distributed handouts and articles.

## **Examination**

- PRO1 - Project, 1.0 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.

## 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.