



# CB2021 Clinical applications of biotechnology 6.0 credits

Kliniska tillämpningar av bioteknik

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

## Establishment

Course syllabus for CB2021 valid from Autumn 2019

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Biotechnology, Molecular Life Science

## Specific prerequisites

Courses in life sciences, eg. courses in cell biology, biochemistry, microbiology, genetic engineering or molecular biology equivalent to at least 20 higher education credits. Courses in theoretical mathematics equivalent to at least 10 higher education credits. At the same time as courses from ÅK 1: Genetics and the knowledge front in translational medicine.

## Language of instruction

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

## Intended learning outcomes

### Knowledge and understanding

After passing the course the student must be able to:

- Describe basic concepts regarding the main parts of the course.
- In text, explain basic principles for biotechnological methods and measurements of biological samples.
- Give examples of clinical applications of biotechnology.

### Skills and abilities

After passing the course the student must be able to:

- Relate biotechnological applications with underlying molecular disease mechanisms.
- Be able to apply diagnostic measurements and report results in writing and orally.

### Values and approaches

After passing the course the student must be able to:

- Suggest biotechnological applications for clinical use and explain their benefits and disadvantages.
- Reflect on the clinical use of biotechnology from an ethical, economic, ecological, and social perspective.

## Course contents

The course in Clinical Applications of Biotechnology provides an orientation on biotechnological methods and measurements used in healthcare. The course provides both theoretical background and practical application of analytical methods. The course includes basic knowledge of molecular disease mechanisms, biomarkers, molecular biology tools and methods. New developments with the potential to be integrated in a clinical context are highlighted. The course includes ethics and sustainability.

## Examination

- TEN1 - Written exam, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory work, 1.5 credits, grading scale: P, 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.

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

## **Other requirements for final grade**

Some modules are compulsory and require attendance

## **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.