UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

## COURSE SYLLABUS

# Molecular Biodesign I G1F

### 7.5 credits

**Course code:** BV320G
**Version number:** 4
**Valid from:** 1 July 2024
**Ratified by:** Curriculum Committee for Bioscience
**Date of ratification:** 25 April 2024

## 1. General information about the course

The course is provided by the University of Skövde and is named Molecular Biodesign I G1F (Molekylär biodesign I G1F). It comprises 7.5 credits and is a first-cycle course. The level of progression is G1F.

The course is a part of the main field of study in Bioscience. The disciplinary domain of the course is Natural Sciences.

## 2. Entry requirements

Entry requirements for this course are the following passed courses: BV108G Cell Biology G1N and BM136G Genetics G1N (or the equivalent).

## 3. Course content

The course involves the underlying theories of techniques used in the field of molecular biology such as cloning, mutagenesis, primer design, and expression profiling of genes and proteins. The course also contains laboratory work which involves planning, execution, analysis of cloning experiments and expression studies.

## 4. Objectives

After completed course the student should be able to:

- describe different techniques and tools used in molecular biotechnology to modify, study and design molecules and organisms,
- plan and execute laboratory work involving cloning and expression of genes,
- design primers for cloning and expression experiments, and
- orally present results from experimental labs in a scientific way.

## 5. Examination

The course is graded A (Excellent), B (Very good), C (Good), D (Satisfactory), E (Sufficient) or F (Fail).

A final grade of the course is only issued when all the examination parts have been passed and is determined by a weighted average of the grades for the examination parts Written examination in computer lab and Laboratory assignment. The average value is rounded to the nearest integer (half rounded up) and translated into a final grade of the course.

The examination Laboratory assignment involves a dugga. The purpose of the dugga is to ensure that the student has the required knowledge regarding safety surrounding the laboratory work. The dugga also secures that the student can perform the laboration in a professional manner.

The examinations of the course consist of the following modes of assessment:

- **Written examination in computer lab**
  3 credits, grades: A/B/C/D/E/F
- **Laboratory assignment**
  3.5 credits, grades: A/B/C/D/E/F
- **Oral presentation**
  0.5 credit, grades: G/U
- **Computer laboration**
  0.5 credit, grades: G/U

Students with a permanent disability who have been approved for directed educational support may be offered adapted modes of assessment.

## 6. Types of instruction and language of instruction

The teaching is comprised of seminars, presentations, laboratory sessions and lectures.

The teaching is conducted in English.

## 7. Course literature and other educational materials

Glick, B. R., and Patten, C. L. (2017). *Molecular Biotechnology - Principles and Applications of Recombinant DNA* (5th ed.). Washington, DC: ASM Press. ISBN 9781555819361.

Kurnaz, I. A. (2015). *Techniques in Genetic Engineering* (1st ed.). Boca Raton: CRC Press. ISBN 9781482260892. (bok), or

Kurnaz, I. A. (2015). *Techniques in Genetic Engineering* (1st ed.). [Electronic] Boca Raton: CRC Press. ISBN 9781482260908. (e-bok)

Scientific articles and protocols.

## 8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

## 9. Additional information

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.