1 **Name, Scope and Level of the Course**

The course is provided by the University of Skövde and is named Molecular Biotechnology A1N. It comprises 7.5 credits and is on advanced level. The level of progression of the course is A1N.

2 **Objectives**

After completed course the student should be able to:

- in detail describe the fundamentals and applications of modern molecular biotechnological techniques,
- in an individual project use bioinformatic tools and databases to design an engineered protein as well as plan for its mutagenesis, cloning and overexpression,
- in a scientific way present the project orally and in writing,
- critically review scientific texts, and
- be able to discuss the use of gene technology and biotechnology from a scientific and ethical perspective and their impact on our society.

3 **Course Content**

The course consists of the theory behind modern molecular biotechnology. The course also contains an individual project where the student will solve a biotechnological problem in an independent and scientific way and present this orally and in writing.

4 **Forms of Teaching**

The teaching comprises lectures, project work, presentations and seminars/group discussions.

The teaching is conducted in English.

5 **Examination**

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

The final grade is determined by a weighted mean value of the grades (A=5, B=4, C=3, D=2 and E=1) for the examinations Supervised written examination and written assignment.

**Registration of examination results:**

<table>
<thead>
<tr>
<th>Name of examination</th>
<th>Credits</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervised written examination</td>
<td>4 credits</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Written assignment</td>
<td>2 credits</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Oral presentation and opposition</td>
<td>0.5 credits</td>
<td>G/U</td>
</tr>
<tr>
<td>Seminars</td>
<td>1 credits</td>
<td>G/U</td>
</tr>
</tbody>
</table>

Students with a permanent disability who have been approved for special educational support may be offered adapted or alternative examinations.

6 **Admission Requirements**

The prerequisites for this course are 150 higher education credits passed, of which at least 90 higher education credits must be courses within biology or medicine. Among these higher education credits, at least 15 must be on G2E-level or higher (or the equivalent).
7 Subject, Main Field of Study and Disciplinary Domain
The course forms a part of the academic subject area of Bioscience. The course is a part of the main field of study in Bioscience at the University of Skövde. The disciplinary domain of the course is Natural Sciences.

Every course at the University of Skövde belongs to a subject. The division of subjects is used for follow-up and quality assurance. A main field of study is an area in which a degree can be awarded. Disciplinary domain is a division which is used by the government for the allocation of resources for studies at basic level and advanced level.

8 Approval of Course and Course Syllabus
The course was approved by the Curriculum Committee for Bioscience on 25 October 2018. This course syllabus was approved by the Curriculum Committee for Bioscience on 28 February 2019. It is valid from 1 July 2019 and replaces the course syllabus approved 25 October 2018.

9 Overlapping with Another Course
This course cannot constitute a part of a degree also containing a course the content of which is totally or partly equivalent to the content of this course, e.g. Genetic Engineering A1N 7.5 credits, Applied Biotechnology A1N 7.5 credits.

10 Additional Information
Further information will be available on the university's website before a course is given.

National and local regulations for higher education are available on the university's website.

Upon completion of the course there will be a follow-up. The main purpose of this follow-up is to contribute to improvements of the course. The students’ experiences and views constitute one of the criteria for the follow-up and are gathered by means of course evaluations. The students will be informed of the results of the follow-up and any decisions regarding actions that are to be taken.

11 Course Literature and Other Educational Materials

or Wink, M. Introduction to Molecular Biotechnology: Fundamentals, Methods and Applications ISBN 9783527672035 (E-book)

Scientific articles.