UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

COURSE SYLLABUS

Data Analysis for Life Science A1N

5 credits

Course code: SY768A
Version number: 8
Valid from: 1 July 2026
Ratified by: Curriculum Committee for Bioscience
Date of ratification: 25 September 2025

1. General information about the course

The course is provided by the University of Skövde and is named Data Analysis for Life Science A1N (Dataanalys inom biovetenskap A1N). It comprises 5 credits and is a second-cycle course. The level of progression is A1N.

The course is a part of the main field of study in Systems Biology. It can also be a part of the main field of study in Bioscience, Bioinformatics and Biomedicine. The disciplinary domain of the course is Natural Sciences.

2. Entry requirements

The course has the following entry requirements: 150 passed credits, including a total of at least 90 credits within one of, or both, the subjects of biology and medicine. Of these, at least 15 credits must be on the level of progression G2E (or the equivalent).

An additional requirement is proof of skills in English equivalent of studies at upper secondary level in Sweden, known as the Swedish course English 6 or English level 2. This is normally demonstrated by means of an internationally recognized test, e.g. IELTS or TOEFL or the equivalent.

3. Course content

This course includes various methods for data analysis and how they are applied in experimental studies within life science. The analysis methods will mainly be applied on datasets that have been generated from experiments in the field of biology. During the course, computer exercises will be applied to illustrate and analyse biological data. The course also includes critical reviewing of a scientific paper with focus on the biological problem and the choice of method used for data analysis.

4. Objectives

After completed course the student should be able to:

- in depth describe and discuss basic statistical concepts and assumptions,
- choose and motivate appropriate analysis method based on scientific question, experimental design, type of variables, and distribution of data,
- process, analyse and present life science data using statistical software as well as interpret the results obtained, and
- critically review a scientific paper with focus on scientific question, choice of method for data analysis, ethical aspects, and sex and gender perspectives.

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 both the examination parts in the course have been passed.

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

- **Oral presentation**
  1 credit, grades: G/U
- **Written examination in computer lab**
  4 credits, grades: A/B/C/D/E/F (determines the final grade)

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 supervision and lectures.

The teaching is conducted in English.

7. Course literature and other educational materials

Michael C. Whitlock & Dolph Schluter (2020). *The Analysis of Biological Data* (3rd ed). Macmillan Learning. Hardcover ISBN: 9781319325343. E-book ISBN: 9781319325350.

Scientific articles and provided material.

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.