



UNIVERSITY
OF SKÖVDE

COURSE SYLLABUS

Introduction to Data Science A1N

15 credits

Course code: IT788A

Version number: 3

Valid from: 1 July 2023

Ratified by: Curriculum Committee for Informatics

Date of ratification: 15 August 2022

1. General information about the course

The course is provided by the University of Skövde and is named Introduction to Data Science A1N (Introduktion till Data Science A1N). It comprises 15 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 Informatics. The disciplinary domain of the course is Technology.

2. Entry requirements

A Bachelor's degree equivalent to a Swedish kandidatexamen of 180 credits (or the equivalent).

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

3. Course content

The course aims to provide the student with an introduction to Data Science, both in terms of research and application. Initially, the course introduces a holistic view of the area, its interdisciplinary nature and application areas. Further, the course introduces and deepens the student's knowledge of programming for Data Science. The course also focuses on the scope and characteristics of the current research within Data Science and the challenges associated with the field, together with the ethical and societal issues that can arise within research and development within the area. Throughout the course, the student is to design a project within Data Science, where the student is to describe and motivate an identified research question, chosen methods, as well as discuss, defend and reflect on the chosen approach.

4. Objectives

After completed course the student should be able to:

- extensively describe and problematize the state of the art of the field of Data Science;
- extensively describe, contrast and discuss fundamental application areas for Data Science;
- extensively exemplify and contrast different perspectives on central foundations, principles, methods and theories within the field;
- present and discuss ethical and societal issues that may arise in connection to Data Science and its applications;

TRANSLATION FROM SWEDISH

- discuss and problematize actual and possible research questions and methods applicable within the research field, based on relevant literature;
- critically reflect and describe requirements and issues for programming within the area; and
- independently develop computer programs within the area.

5. Examination

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

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

- **Laboratory assignment**
5 credits, grades: G/U
- **Written assignment 1**
5 credits, grades: A/B/C/D/E/F (determines the final grade)
- **Written assignment 2**
5 credits, grades: G/U

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

6. Types of instruction and language of instruction

The teaching is comprised of presentations, supervision, lectures, project work and seminars/group discussions.

The teaching is conducted in English.

7. Course literature and other educational materials

Course literature according to teachers' instructions on the learning platform.

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.