



UNIVERSITY  
OF SKÖVDE

TRANSLATION FROM SWEDISH

## COURSE SYLLABUS

# Big Data Programming A1F

7.5 credits

**Course code:** IT739A

**Version number:** 6.1

**Valid from:** 1 January 2024

**Ratified by:** Curriculum Committee for Informatics

**Date of ratification:** 17 August 2023

## 1. General information about the course

The course is provided by the University of Skövde and is named Big Data Programming A1F (Programming för Big Data A1F). It comprises 7.5 credits and is a second-cycle course. The level of progression is A1F.

The course is a part of the main field of study in Informatics. The disciplinary domain of the course is Technology.

## 2. Entry requirements

The course has the following entry requirements: passed IT788A Introduction to Data Science A1N (or the equivalent).

## 3. Course content

The course focuses on programming frameworks, tools and programming paradigms for Big Data programming and data analysis, such as used in Data Science. The student will learn to use key programming tools, and learn how to perform efficient Big Data analytics and machine learning using selected and relevant frameworks. Current programming languages within Data Science are used in the course, frameworks for Deep Learning are introduced, and topics in functional programming related to scalability are covered. The course contains computer assignments that give concrete insights in the usage of programming languages and frameworks for Big Data analytics: programming exercises and a small full-cycle data analysis project are conducted within the course.

## 4. Objectives

After completed course the student should be able to:

- critically reflect on the needs for programming tools for Big Data,
- prove understanding of the development of tools for Big Data programming,
- show an in-depth understanding of paradigms that are frequently used for Big Data programming,
- demonstrate abilities to make use of chosen programming tools for Big Data programming and data analysis and
- execute a small data analysis project using Big Data programming.

## 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:

- **Individual assignment**  
2 credits, grades: G/U
- **Supervised written examination**  
5.5 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 or alternative modes of assessment.

## **6. Types of instruction and language of instruction**

The teaching is comprised of lectures.

The teaching is conducted in English.

## **7. Course literature and other educational materials**

According to teacher' instructions on the page of the course 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.