



Faculty of Health, Science and Technology  
Computer Science

# Syllabus

## Distributed Systems and Cloud Computing

<b>Course Code:</b>	DVAD26
<b>Course Title:</b>	Distributed Systems and Cloud Computing <i>Distribuerade system och molntjänster</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Master's level
<b>Progressive Specialisation:</b>	Second cycle, has only first-cycle course/s as entry requirements (A1N)

**Major Field of Study:**  
DVA (Computer Science)

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2022-09-13, and is valid from the Spring semester 2023 at Karlstad University.

### Prerequisites

7.5 ECTS credits completed in each of the areas Computer Security, Computer Networking, Operating Systems, and Programming, and upper secondary level English 6, or equivalent

### Learning Outcomes

The course treats fundamental concepts of distributed systems, especially in relation to advanced aspects of cloud computing, and offers students the opportunity to engage in in-depth study of a number of selected topics within the areas of distributed systems and cloud computing.

Upon completion of the course, students should be able to:

1. explain the principles of distributed systems,
2. explain the most common theoretical approaches and techniques in the area of distributed systems,

3. explain the principles of cloud computing,
4. explain and analyse scientific literature on cloud computing and some of the techniques included in cloud computing, such as virtualisation,
5. explain and practice several techniques to be able to use, build, and manage platforms for cloud computing, and
6. demonstrate knowledge of relevant literature (conference papers and journal articles) on a number of given topics in the areas of distributed systems and cloud computing.

### **Content**

The course combines two adjacent areas of study, distributed systems and cloud computing. It treats basic principles of distributed systems through several examples of different types of distributed applications, and also introduces cloud computing and some of its applications.

### **Reading List**

See separate document.

### **Examination**

Assessment is based on an individual written report of hand-in assignments, active participation in seminar discussions, and a final written exam.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

### **Grades**

One of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail) is awarded in the examination of the course.

### **Quality Assurance**

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

### **Course Certificate**

A course certificate will be provided upon request.

### **Additional information**

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.

The course DVAD26 cannot be included in the same degree programme as the courses DVGC15 and DVAD51.