



Faculty of Health, Science and Technology  
Computer Science

## Syllabus

### Network Monitoring with programmable dataplanes

<b>Course Code:</b>	DVAD43
<b>Course Title:</b>	Network Monitoring with programmable dataplanes <i>Nätövervakning med programmerbara dataplan</i>
<b>Credits:</b>	1.5
<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 2018-08-27, and is valid from the Spring semester 2019 at Karlstad University.

#### Prerequisites

Computer Science 30 ECTS credits, or three years of work experience, and Introduction to Dataplane Programming DVAD41, or equivalent. Upper secondary English 6 or B, or equivalent.

#### Learning Outcomes

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

- give an account of basic principles and concepts of network monitoring, In-band Network Telemetry (INT), In-network caching, and control,
- describe techniques for network monitoring, INT, In+network caching, and control
- explain how the INT framework can be programmed.

#### Content

The course treats the principles of software-based network monitoring techniques with INT and its use cases for monitoring network flows. In addition, network caching for programmable data planes and its use cases including caching for key-value tuple. Finally, future usecases such as network control for programmable sensor-actuator communication.

#### Reading List

See separate document.

#### Examination

Assessment is based on individual hand-in assignments and active participation in discussions.

**Grades**

One of the grades Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course. Engineering students are awarded one of the grades Pass with Distinction (5), Pass with Some Distinction (4), Pass (3) or Fail (U) 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**

DVAD43 cannot be included in the same degree programme as DVAD40.

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