



DEPARTMENT OF APPLIED INFORMATION TECHNOLOGY

TIA016 Digital Infrastructure, 15 credits

Digital infrastruktur, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Applied Information Technology on 2017-06-26 and was last revised on 2018-01-30 to be valid from 2018-01-30, spring semester of 2018.

Field of education: Science 100%

Department: Department of Applied Information Technology

Position in the educational system

The course can be part of the following programmes: 1) Applied Data Science Master's Programme (N2ADS) and 2) Digital Leadership Master's Programme (N2DIG)

Main field of studies

Informatics

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

To be eligible for the course the student must have a Bachelor degree of 180 credits and English 6/English B from Swedish Upper Secondary School.

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

1. describe central theories and concepts in the field of digital infrastructure,
2. explain methods for analysis and design of digital infrastructure.

Competence and skills

3. analyze opportunities and risks with digital infrastructures.
4. plan for design as well as use of digital infrastructures.

Judgement and approach

5. evaluate underlying assumptions and contextual parameters in the design of digital infrastructure.
6. compare and differentiate among different types of digital infrastructures.

Course content

The course develops students' knowledge about the role of socio-technical infrastructure in the digitalization of society, services and products. In particular, it focuses on how such digital infrastructures create opportunities and limitations, leading to both expected and unexpected consequences. The course will also develop students' ability to take a leading role in designing and exploring the use of digital infrastructures.

The course has a strong theoretical foundation, combined with a distinct design perspective. This focus ensures that students develop skills in analyzing and developing future digital infrastructures for digital innovation.

The course is theoretically anchored in several domains, including but not limited to information systems, anthropology and design. The design perspective is based on design thinking and participatory design. The course also includes guest lectures from commercial organizations and public authorities, involved in digital infrastructure development. The course ends with a project where the students, based on a scenario-based approach and design fictions, elaborate on the challenges of digital infrastructures development.

Form of teaching

The course is implemented through lectures, seminars, case studies, supervision, and a project where students apply and deepen their knowledge.

Language of instruction: English

Assessment

The course is examined through two modules:

Module 1. Individual written exam (6 hec) which takes place in an examination hall.

This examination focuses on the student's conceptual understanding of digital infrastructure. During the examination students should be able to describe the central concepts and explain their meaning. The examination takes place after approximately 5 weeks and assesses learning objective 1 and 2.

Module 2. Written group assignment (9hec) where the results of a project work are presented. The project work consists of students in a group investigating and analyzing a digital infrastructure. The examination covers learning goals 3, 4, 5 and 6.

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In cases where a course has been discontinued or has undergone major changes, the student shall normally be guaranteed at least three examination occasions (including the ordinary examination) during a period of at least one year from the last time the course was given.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

Module 1, Individual written exam, will be graded Pass with Distinction (VG), Pass (G) or Fail (U).

Module 2, Group written assignment and oral presentation, will be graded Pass with Distinction (VG), Pass (G), or Fail (U).

For the grade Pass on the course, Pass is required on the two modules. To receive the grade Pass with Distinction on the course, Pass with Distinction is required on Module 1 and Pass is required for Module 2.

Course evaluation

Students are to be given the opportunity to communicate their experience and views on the course in an anonymous course evaluation. Evaluations are to be completed electronically. The results of the course evaluation are to be made accessible to students. Processed results of the latest evaluation, including changes made or planned, are also to be made available to participants in the next round of the course. The results of and possible changes to the course will be shared with students who participated in the evaluation and students who are starting the course.

