AF2508 Building Service Technologies and Systems 7.5 credits

Installationsteknik och -system

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for AF2508 valid from Autumn 2021

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

Documented knowledge in service and energy systems and building physics 15 ECTS corresponding to the content in courses AF1002 and AF1402.

Eng B/6 according to the Swedish upper secondary school system.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The course aims at providing a sound understanding of key building service components and systems, as well as their function and performance in different types of buildings, including high-performing buildings (passive, near-zero-energy and positive energy buildings).

Special emphasis is placed on the inter-relationships between service quality, operational safety/reliability and sustainability of complex building service systems, with particular focus on energy-/resource- and cost-efficiency, as well as environmental compatibility.

Course contents

Upon successful course completion, students are intended to have gained a sound understanding of the folowing aspects of building service components and systems, as well as related building services:

• Customer needs/requirements (indoor air quality, thermal comfort, lighting, domestic hot water etc) in different categories of buildings

• Air flows and thermal processes in buildings

• Component selection and system integration (heating/cooling, domestic hot water preparation, ventilation, lighting, etc.)

• System boundaries selection and system optimization in retrofitting and new construction (from singular buildings to building clusters/precincts)

• Low-exergy systems and renewable energy technologies

• Energy-efficiency and energy quality management in buildings

• Control systems and technologies

• Operational safety/reliability and sustainability

• BIM-based applications for building services

• Service quality, performance assessment and customer value

Examination

- ÖVN1 - Laborations, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 4.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

ÖVN1- Laborations; 3 ECTS; Grade scale P,F

TEN1 - Written exam; 4,5 ECTS; Grade scale A-F

Other requirements for final grade

Passed in ÖVN1 and TEN1

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.