HS1735 Project Building and Installations 7.5 credits

Projekt hus och installationer

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

Establishment

Course syllabus for HS1735 valid from Autumn 2019

Grading scale

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

Education cycle

First cycle

Main field of study

The Built Environment, Technology

Specific prerequisites

- Students of the Bachelor of Science in Engineering programmes Constructional Engineering and Design or Engineering and Economics specialising in Constructional Engineering and Design: AF1733 Building Technology 3, Building Physics and Materials or equivalent courses

- Students of the Higher Education Diploma programme Construction Management:
HS1730 Building Physics
or equivalent courses

Language of instruction

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

Intended learning outcomes

Upon completion of the course, the student shall be able to:

- Participate in planning of building fixtures and fittings
- Choose fixtures and fittings for a good, energy-efficient indoor environment
- Manage electrical safety in buildings
- Lead coordination between various parties in the construction process
- Identify and eliminate critical risks in a construction project

Course contents

This course contains theoretical and practical training in technical installations for buildings, principles of their design, and calculation aids. The project module also includes calculating quantities, on the one hand for part of an HVAC system, and on the other for a piping system, as well as a planning assignment using a digital drawing tool to coordinate installations at a critical section of a building. The course consists of three main modules:
HVAC systems, pipe installations and electrical installations.

This course covers:

- Indoor climate and thermal comfort
- Heating of buildings, heat transfer and heat recovery
- Mollier diagram for humid air
- Heat pumps and solar collectors
- Comfort cooling
- Frequently used air treatment systems
- Water and sewage systems in common use
- Control and regulation systems
- Electric installations and electrical safety
- Planning and installation phases
- Interpretation of drawings, installation drawings
- Commissioning, performance inspection, verification inspection and installation handover
- Laws and regulations that affect installations
- Organising the coordination of installations

Disposition

The course is taught through theoretical lectures, with practical elements such as reading blueprints, component demonstrations, quantity calculations, digital planning/drawing assignment as well as obligatory field trips.

Course literature

Warfinge, C/Dahlbom, M: Projektering av VVS-installationer
EUU: Elsäkerhetshandboken

Examination

- PRO1 - Project, 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.

The course is examined using a written examination and a project assignment. The project assignment consists of three parts and three obligatory field trips.

Other requirements for final grade

To receive a final grade for this course, passes are required in the examination and the project assignment.
Overall course grade is based on grading scale A-F.

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.