



Course syllabus

Installationsteknik Building Services

ABKF05, 7 credits, G2 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED V

Date of Decision: 2023-03-21

General Information

Compulsory for: IBYA2

Language of instruction: The course will be given in Swedish

Aim

To give the student a basic knowledge of indoor environment and requirements on it and basic knowledge of the most common building services systems functions, i. e. systems for ventilation, heating, water supply, waste water and control systems.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- have gained elementary knowledge about and demand on indoor environment.
- be able to identify and solve elementary problems within indoor environment, ventilation, heating, sanitation and related systems.
- understand basic principles for control of heating and ventilation systems.

Competences and skills

For a passing grade the student must

- be able to design systems for ventilation, heating, tap water and waste water for dwellings.
- be able to coordinate building services with framework and layout.
- be able to perform elementary drawings and interpret more advanced.
- be able to calculate and value energy needs for a building.

Contents

The course deals with general building services for HVAC, demands on the thermal climate and the indoor air quality and criteria, design of systems for ventilation, heating, tap water and waste water and principles for control of these as well as coordination of building services with layout and framework, performing elementary drawings and estimation of energy needs.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: Written examination with one theoretical part and another one concerning calculations. Both parts must be approved at the same occasion. To pass the course the students also have to be approved on the laboratory exercise and the project exercise. A well accomplished project exercise can raise the final grade with a maximum of half a grade.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts

Code: 0113. **Name:** Assignments.

Credits: 2. **Grading scale:** UG. **Assessment:** To be approved the exercises must be completed and passed. The report must be written on level II. A well done project can raise the final grade a maximum of a half step. **Contents:** For a single-family house design building services for ventilation, heating, supply- and wastewater.

Code: 0213. **Name:** Written Examination.

Credits: 5. **Grading scale:** TH. **Assessment:** Written examination with a theoretical part and a calculation part. Both parts must be approved at the same occasion. **Contents:** Theoretical and calculation tasks based on course literature and notes from lectures.

Admission

Assumed prior knowledge: VBM611 Byggnadsmaterial OR VBMA35 Building Materials AND VBF605 Building Physics OR VBFA10 Building Physics.

The number of participants is limited to: No

The course overlaps following course/s: ABK630, ABK606

Reading list

- Johansson, D: Något om styr- och reglerteknik. LTH, 2014.
- Warfvinge, C. och Dahlblom M.: Projektering av VVS-installationer. Studentlitteratur, 2010, ISBN: 978-91-44-05561-9.
- Catarina Warfvinge och Mats Dahlblom: Projektering av VVS-installationer, Övningar. Studentlitteratur, 2016, ISBN: 978-91-44-11516-0.

Contact and other information

Course coordinator: Karin Farsäter, karin.farsater@hvac.lth.se

Course homepage: <https://canvas.education.lu.se>

Further information: The course includes a project exercise called "villan Villan" in which a one family house should be provided with necessary engineering systems. The exercise, with several handing in, is a part in the two courses Building technology and Building services.