Course syllabus

Husbyggnads- och installationsteknik
Building Technology and Building Services

VBFA01, 10 credits, G1 (First Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED V
Date of Decision: 2023-03-21

General Information

Main field: Technology.
Compulsory for: V1
Language of instruction: The course will be given in Swedish

Aim

To give a basic knowledge of building technology, building physics, indoor climate and building services.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to describe and explain different building components
- be able to analyse and calculate elementary heat and moisture processes
- be able to identify and describe the effect of moisture on different building components
- have a basic knowledge of indoor climate and demands on the indoor climate
- have knowledge of systems for ventilation, heating, tap water and waste water.

Competences and skills
For a passing grade the student must

- be able to use technical terms both oral and written

- be able to discuss different solutions with actors in the building trade
- be able to create well performing building components in detail
- be able to independently carry out further studies
- be able to design systems for ventilation, heating, tap water and waste water in dwellings
- be able to identify and solve elementary problems within building services

Contents

This course deals with how to put components together in order to provide shelter against the outside climate, the application of different indoor climate criteria and the construction of simple building service systems for ventilation, heating, tap water, waste water and rainwater. Also studied are the coordination of building services with building plans and structure. Simple drawings and the reading/understanding complex drawings will also be addressed.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: The examination consists of two written exams, one for building technology and one for building services engineering, compulsory construction tasks and the course start with a compulsory workshop. Both exams consist of a theoretical part and a calculation part, both must be approved at the same occasion. The final grade is weighted together by the two exams. The course includes a compulsory assignment on group dynamics.

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: 0108. **Name:** Building Science.
Credits: 4. **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 litterature and notes from lectures in building technology and building physics.
Code: 0208. **Name:** Building Services.
Credits: 3. **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 litterature and notes from lectures in building services.
Code: 0308. **Name:** Handing in Exercises.
Credits: 3. **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 give bonus points that can raise the final grade. **Contents:** For a single-family house design building components and put them together to a functioning building and design necessary building services.

Admission

Assumed prior knowledge: FAFA45 Thermodynamics with Applications.
The number of participants is limited to: No
The course overlaps following course/s: VBM060, ABK140, VBF012, VBF017

Reading list

- Sandin, K: Praktisk husbyggnadsteknik. Studentlitteratur, 2019, ISBN: 9789144131580.
- Sandin, K: Praktisk byggnadsfysik. Studentlitteratur, 2010, ISBN: 9789144059914.
- Sandin, K: Praktisk byggnadsfysik: övningsbok. Studentlitteratur , 2010, ISBN: 9789144059891.

- Warfvinge, C & Dahlblom, M: Projektering av VVS-installationer. Studentlitteratur , 2010, ISBN: 9789144055619.
- Dahlblom, M: Övningsuppgifter installationsteknik. LTH, 2016.
- Svenska Språknämnden: Svenska skrivregler. Liber , 2005, ISBN: 91-47-05271-6.
- Strömquist, S: Skrivboken. Gleerups, 2005, ISBN: 91-40-64513-4.

Contact and other information

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