



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Teknisk byggnadsförvaltning **Technical Management of Buildings**

ABKF01, 7,5 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

Elective for: L4-fr, L4-fe

Language of instruction: The course will be given in Swedish

Aim

The Swedish Environmental Objectives state that the total energy use per heated area in residential and commercial buildings will decrease, with target reductions of 20% by 2020 and 50% by 2050, compared to the energy use in 1995. Also the EC require, in the “Energy Performance of Buildings Directive, that all new buildings must be zero energy buildings by 2050.

The aim of the course is to give the student enhanced knowledge in order to support a sustainable development in order to reduce the climate changes and the resource use from the building stock.

The main objective is on existing buildings and the need of refurbishment including the management.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- Be able to describe the possibilities and limitations for improvements of the building envelope.
- Be able to describe the function of complex building services systems.
- Be able to describe the energy use in buildings and relate to environmental objectives and resource management.

Competences and skills

For a passing grade the student must

- Be able to evaluate the influence of the building technology and building services on the indoor environment, the energy demand and moisture safety.
- Be able to analyse technical problems related to the building.
- Be able to discuss technical solutions with other actors within building and real estate management sector.
- Independently collect information in order to solve specific problems in relation to the subject.
- Be able to describe important aspects related to the status of a building and the renovation of a building in a written report.
- Be able to orally communicate the contents of such a report, as well as critically review and comment on reports produced by other students, within the course.

Contents

- Energy efficiency and indoor climate mainly through management and renovation of existing buildings.
- The technical status of the building stock and possibilities for improvements.
- Modern criteria low-energy buildings.
- The function of different climatic systems in different buildings types.
- Moisture problems in houses and proposals for measures.
- Measures for reducing the energy use.
- Reading building- and building services drawings.
- Project work describing a building with problems with the indoor climate and/or technical problems, find casual connections and propose improvements.

Examination details

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

Assessment: Written examination. To pass the course the students also must fulfill and pass a project.

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: 0120. **Name:** Examination.

Credits: 6. **Grading scale:** TH. **Assessment:** Written examination

Code: 0220. **Name:** Project.

Credits: 1,5. **Grading scale:** UG. **Assessment:** Approved Project

Admission

Assumed prior knowledge: VTVA05 Sustainable Construction

The number of participants is limited to: No

The course overlaps following course/s: VBF015

Reading list

- STEM : Att tilläggsisolera hus – fakta, fördelar och fallgropar. 2009.

- Energimyndigheten : Fönsterrenovering med energiglas. 2008.
- Reppen L, Kallstenius P, Björk C. : Så byggdes husen 1880-2000. Liber , 2003.
- Gunnar Anderlind: Fuktboken. Gullfiber AB, 1991.
- Sektionsfakta ROT. Wikells.
- Sektionsfakta VS. Wikells.
- Sektionsfakta LUFT. Wikells.
- Aareon: REPAB FAKTA 2020, Underhållskostnader. 2020.
- Aareon: REPAB FAKTA 2020 , Bostäder. 2020.

Contact and other information

Examinator: Dennis Johansson, dennis.johansson@hvac.lth.se

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Course homepage: <http://www.byfy.lth.se/utbildning/>