



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Energihushållning

Energy Conservation

VBFF15, 8 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

The course is intended to provide knowledge about the energy performance of buildings and provide suggestions for improvements. The course involves an in-depth field of energy conservation and energy-efficient construction. The focus is on understanding how energy simulation of houses is done in various simulation programs and tools. Project assignments are conducted in small groups where students do literature research on the subject and also carry out calculations. These are then reported in writing and orally

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- propose suitable energy saving solutions
- have an understanding of how energy simulations are done

Competences and skills

For a passing grade the student must

- carry out an advanced energy analysis
- have the knowledge to make it possible to suggest suitable measures for energy

- conservation both for newly constructed buildings and for improved existing buildings
- understand and make comments on an recent published paper about low-energy housing

Judgement and approach

For a passing grade the student must

- be able to analyse the energy efficiency of new and old buildings.

Contents

- Risk analysis
- Energy analysis programs
- Advanced building physics

Examination details

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

Assessment: Approved projects and examination.

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: 0119. **Name:** Energy Conservation.

Credits: 4. **Grading scale:** TH. **Assessment:** Written examination

Code: 0219. **Name:** Project Energy Conservation.

Credits: 4. **Grading scale:** TH. **Assessment:** Written and oral presentation of project work. The project is accepted when the quality meets the teaching goals.

Admission

Admission requirements:

- VBFA10 Building Technology

Assumed prior knowledge: Basic courses in Building Science, Building Physics and Building Materials.

The number of participants is limited to: No

The course overlaps following course/s: VSMF01

Reading list

- Energy and other computer programs.
- Material available on the course homepage, mainly extract from course literature.
- Bengt Strandberg, Fredrik Lavén: Bygga Hus , Illustrerad bygglära. Studentlitteratur, 2021, ISBN: 978-91-44-15112-0. Not required but can be used for reference.

Contact and other information

Course coordinator: Petter Wallentén, petter.wallenten@byggtek.lth.se

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