Building Technology, Advanced Course

Programme course

6 credits

Byggnadsteknik, fortsättningskurs

TNBI39

Valid from: 2017 Spring semester

Determined by
Board of Studies for Mechanical Engineering and Design

Date determined
2017-01-25

Offered for the last time
Spring semester 2021

Replaced by
TNBJ15

Main field of study
Civil Engineering

Course level
First cycle

Advancement level
G2X

Course offered for
- Civil Engineering, B Sc in Engineering

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Building Technology basic course.

Intended learning outcomes
The course intends to give advanced knowledge of building physics and house building technology together with basic knowledge of sound insulation and safety in case of fire. After completing this course students should be able to

- explain the physical notions of moisture and heat as well in the materials as in the compounded building units
- perform calculations of heat- and moisture transfer in order to estimate heat capacity, energy and power requirements and effects of moisture
- describe technical performances of house buildings in order to create healthy housing conditions regarding to sound insulation by calculating extension, reduction and absorption of sound
- describe technical performances of hose buildings with respect to the demands of safety in case of fire
- present applications of the most common building materials with respect to healthy housing conditions and low environmental influence.

Course content
Heat: basic physics in heat transfer. Heat capacity. Energy and power requirements. Moisture: Moisture sources. Moisture transfer. Condensation. Desiccation. Problems caused by moisture. Sound: Generally. Sound insulation and demands. Safety in case of fire: Demands and protection. Technical performance. Housing construction: Healthy houses.

Teaching and working methods
Lectures, project assignments and seminars.

Examination

UPG1	Home assignments	1.5 credits	U, G
TEN2	Written examination	4.5 credits	U, 3, 4, 5

Grades
Four-grade scale, LiU, U, 3, 4, 5

Department
Institutionen för teknik och naturvetenskap

Director of Studies or equivalent
Dag Haugum

Examiner
Madjid Taghizadeh

Course website and other links

Education components
Preliminary scheduled hours: 48 h
Recommended self-study hours: 112 h

Course literature
Petersson, B-Å.: Byggfysik inkl ljud och brand (Kompendium sammanställt för Högskoleingenjörsutbildningen i Norrköping). KTH-kompendium: Byggnadsteknikens grunder

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.