



Faculty of Health, Science and Technology
Construction Engineering

Syllabus

House Building Technology

Course Code:	BYGB20
Course Title:	House Building Technology <i>House Building Technology</i>
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

Major Field of Study:
BYA (Building Technology)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2015-02-04, and is valid from the Autumn semester 2015 at Karlstad University.

Prerequisites

Engineering 15 ECTS cr and Energy and Environmental Engineering 15 ECTS cr, or TGHBY enrollment, or equivalent

Learning Outcomes

The aim of the course is that students acquire basic knowledge of building materials, building technology and building physics and develop knowledge and skills in using environmental databases for building materials and energy estimation software.

Upon completion of the course, students should be able to:

- describe the manufacturing, properties and functions of building materials,
- describe the structure of the environmental data tool SundaHus,
- use the environmental data tool to assess building materials,
- give an overview of fire and acoustic aspects of buildings,
- give an overview of the interior climate of buildings,
- calculate moisture dispersion in building parts and analyse moisture safety,
- calculate the U-value and ventilation loss and draw up an energy balance for single-family houses,
- give an account of the calculation principles on which energy balance estimations are made with the help of the computer,
- reading drawings,
- compile and give an account of the technical information of a building in a clear and accessible way.

Content

The course consists of:
- building materials

- environmental assessment of building materials
- the structure and function of foundation, structure, structure completion and building envelope
- the fire resistance and acoustic aspects of buildings
- exterior and interior climate
- heat and moisture transport in buildings
- energy consumption in buildings
- reading building drawings
- laboratory work including concreting and compressive test of concrete, tensile test of steel and compressive test of wood
- computer exercises in SundaHus and VIP energy

Instruction is in the form of lectures, calculation exercises, four mandatory group laboratory exercises, field trips and computer exercises.

Reading List

See separate document.

Examination

Assessment is based on a written exam, laboratory reports, mandatory laboratory attendance, and written and oral presentations of hand-in assignments.

Grades

One of the grades 5 (Distinction), 4 (Merit), 3 (Pass), or U (Fail) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The course BYGB20 cannot be included in the same degree programme as the course BYGA11.

The local regulations for studies at the Bachelor's and Master's levels at Karlstad University stipulate the obligations and rights of students and staff.

Required course for the Building and Construction Engineering programme