



Faculty of Health, Science and Technology
Construction Engineering

Syllabus

Introduction to building engineering

Course Code:	BYGA15
Course Title:	Introduction to building engineering <i>Introduktion till byggteknik</i>
Credits:	12.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has only upper-secondary level entry requirements (G1N)

Major Field of Study:
BYA (Building Technology)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2023-02-15, and is valid from the Autumn semester 2023 at Karlstad University.

Prerequisites

General admission requirements and Mathematics 3C or Mathematics D, Physics 2, and Chemistry 1

Learning Outcomes

Upon completion of the course, students should be able to

- create simple construction drawings by hand in accordance with industry standards,
- draw up a time plan and a specification of materials for a project,
- build a part of a construction solution in groups based on the drawings produced,
- follow up the project regarding time and resources used,

- reflect on group methodology in a project,
- relate their own contribution to group project activities with the help of group dynamics concepts,

- give an account of, reflect upon, and evaluate their own contribution to the project,
- write an academic report according to given templates and structure,
- identify search words and information sources,
- use the services and resources of the library to seek information with the help of library staff,
- distinguish between academic texts (research articles) and other informative texts,
- make correct references in the text and in the list of references according to a given system,
- demonstrate good ability to communicate orally and in writing,
- plan and complete projects within given time limits,

- discuss ethical issues of the engineering profession based on ethical principles,
- discuss gender-related issues of the engineering profession based on gender theory,

- give a general account of the role and significance of construction in society,
- give an account of current sustainability issues in spatial planning and construction, and
- demonstrate familiarity with different participants in the building process and their roles.

Content

The course introduces building engineering at a practical level and covers the following:

Building process: the societal role of building, sustainability issues, and different professional roles

Drawing technique: drawings in accordance with industry standards, section and view

Academic writing: library resources, different types of sources, strategies for literature searches, structure, language, and referencing. Students conduct a practical experiment which is presented in writing in accordance with a template.

Project: groups of students plan and build part of a building in accordance with given specifications

Project methodology: planning, implementation, and follow-up of the project both theoretically and practically, including project methodology, group dynamics, ethical aspects, and gender perspectives.

Students are required to attend introductions to library services and resources, as well as laboratory and workshop safety routines.

Reading List

See separate document.

Examination

Assessment is based on

- a project presented orally and in writing in groups, and in individual hand-in assignments
- individual hand-in assignments
- mandatory attendance at instruction on laboratory and workshop safety routines
- mandatory introduction to library services and resources
- mandatory attendance at guest lectures
- active participation in group exercises

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades Distinction (VG), Pass (G), or Fail (U) 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 local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.

Students who have not attended the mandatory Introduction to safety routines in laboratories and workshops do not have access to the premises in which the required project is carried out and cannot receive a passing grade.