LUNDS UNIVERSITET
Lunds Tekniska Högskola

*Course syllabus*

# Byggnadsmaterial
# Building Materials

## VBMA25, 5 credits, G1 (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:** BR1
**Language of instruction:** The course will be given in Swedish

## Aim

The aim of the course is to give basic knowledge about the structure and properties of common buildning materials.

## Learning outcomes

*Knowledge and understanding*
For a passing grade the student must

- be able to identify the most common building materials
- know the structure, manufacturing process, and properties of building materials
- understand how the properties can be affected during development and manufacturing
- be able to understand fundamental mechanisms regarding heat transfer, moisture properties, mechanical properties, durability and behaviour at high temperatures

*Competences and skills*
For a passing grade the student must

- be able to identify important requirements in various environments and how these affect the materials
- be able to make reasonable material choices and to judge the consequenses of these choices in various situations

## Contents

The course deals with the most common building materials.

Interrelations between the structure and the properties of building materials.Production of materials. Structure of materials on submicro-, micro- and macro-levels. Density and porosity. Heat and moisture transfer and their effects. Strength and deformation. Durability. Effect of high temperatures.

The student experiments are performed in groups of max four students. They test for example casting of concrete, heat and moisture transport, strength and creep.

## Examination details

**Grading scale:** TH - (U,3,4,5) - (Fail, Three, Four, Five)
**Assessment:** Written examination. Three mandatory student experiments.

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:** 0115. **Name:** Laboratory Work.
**Credits:** 1. **Grading scale:** UG. **Assessment:** Laboratory Work
**Code:** 0215. **Name:** Written Examination.
**Credits:** 4. **Grading scale:** TH. **Assessment:** Written examination

## Admission

**The number of participants is limited to:** No
**The course overlaps following course/s:** VBM011, VBM611, VBMA05, VBM012, VBMA30, VBMA35

## Reading list

- Burström, P.G.: Byggnadsmaterial, 4:e upplagan. Studentlitteratur, 2021, ISBN: 9789144151786.
- Burström, P.G.: Byggnadsmaterial – övningsbok, 4:e upplagan. Studentlitteratur, 2021, ISBN: 9789144153988.
- Utdelat material som görs tillgängligt på kurshemsidan.

## Contact and other information

**Course coordinator:** Magnus Åhs, magnus.ahs@byggtek.lth.se
**Course administrator:** Linnea Ekman , linnea.ekman@ebd.lth.se
**Course homepage:** http://www.byggnadsmaterial.lth.se/utbildning/vbma25