

SYLLABUS

Basic Technology I 7.5 pre- education credits MX001T

Teknologi I för basår

Course syllabus admitted: Autumn 2023 Sp 1 - Present

**DECISION DATE
2021-02-17**

Basic Technology I 7.5 pre-education credits MX001T

Teknologi I för basår

Pre-university level, MX001T

Education level	Grade scale	Subject	Subject group (SCB)
Pre-university level	U G#	Maskinteknik	Mechanical Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Mathematics 2a/2b/2.

Or:

Mathematics C

Selection

Course Aim

The student should be able to make simpler strength calculations and tests regarding normal, shear, bending and compressive stresses, including buckling and composite stresses, Divided into 3 categories.

1. Knowledge and understanding

- Have developed understanding of basic concepts of problem solving in an engineering manner and course purpose, and ability of solving simpler solid mechanics calculations
- Have knowledge of the various simple load models and insight into thorough paths and systematic approach in construction and applied mechanics
- Understand design limitations in construction
- Understand concepts that come up during the course, ability to verify simple equations with the help of problem solving

2. Skill and ability

- Be able to assess possibilities and limitations for simple load models and strength calculations
- Be able to use simple equations and simple calculation models to solve problems
- To be able to explain and demonstrate pedagogically to others how a simpler theory of strength / applied mechanics is solved.
- Have insight into the conditions for gender equality in working life

3. Ability of assessment and attitude

- To be able to relate to applied solid mechanics and construction theory.
- To be able to apply simple calculation models in different applications
- To have insight of the role of the engineering profession in a societal and cultural perspective
- be able to describe facts about gender equality in society and reflect on gender equality in technology and engineering.

Contents

Problem solving. Applied solid mechanics and structure theory including: Tension, pressure, shear, bending, twisting, buckling, compound stresses/strain
Construction elements and standard.
Technical description and reporting
Video recordings and quizzes in gender equality

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Lectures with theory reviews and classes for solving problems in groups and individually (digitally or in classrooms). The labs are performed as group work (digitally or in classrooms).

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Continuous examination. The students solve individually compulsory assignments according to the given lectures, which are reviewed and approved. As well as approved quizzes and laboratory work are required to obtain an approved final grade. Grades are given after completing the course. Assignments must be uploaded via the learning platform and during certain deadlines and a maximum of 3 returns on each assignment is allowed.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Overlap

The course MX001T is equal to M0023T

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Fup	Status	From period	Title
0001	Assignment reports and tests	U G#	6	Mandatory	A19	
0002	Laboratory work	U G#	1.5	Mandatory	A19	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Syllabus established

by Head Faculty Programme Director Niklas Lehto 2021-02-17