

SYLLABUS

Deformation and Fracture

7.5 credits T7001T

Deformation och brott

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2021-02-17

Deformation and Fracture 7.5 credits T7001T

Deformation och brott

Second cycle, T7001T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Materialteknik	Materials Technology

Main field of study

Materials Science and Engineering

Entry requirements

Basic knowledge about metallic and polymeric materials corresponding to the course T0004T or equivalent.

Selection

The selection is based on 30-285 credits

Course Aim

The student should after completing the course have achieved a deeper knowledge of the mechanical behaviour of materials based on - the microstructure of materials - different loading modes - phenomena acting during different deformation situations The student should after the course also have achieved deeper knowledge - about the initiation of fractures - prevention of fracture and failures

Contents

The course will cover mechanical behaviour such as plasticity, creep, fatigue and fracture toughness especially of metals, from both a macroscopic and microscopic point of view. Basic theories and modern development with material science and fracture mechanics will be emphasised.

Realization

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

Lectures lessons, home-assignments and laboratory work.

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. Written exam and approved laboratory task.

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 T7001T is equal to MPC002

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0003	Laboratory work	U G#	0.5	Mandatory	A09	
0004	Written exam	G U 3 4 5	7	Mandatory	A21	

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.

Last revised

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

Syllabus established

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.