

SYLLABUS

Mechanics of Fiber Composites 7.5 credits T7011T

Fiberkompositers mekanik

Course syllabus admitted: Autumn 2023 Sp 1 - Present

**DECISION DATE
2020-06-18**

Mechanics of Fiber Composites 7.5 credits T7011T

Fiberkompositers mekanik

Second cycle, T7011T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	6 U G VG 3 4 5 *	Polymerteknik	Materials Technology

Main field of study

Materials Science and Engineering

Entry requirements

Matris algebra and basic strenght of materials concepts.

Selection

The selection is based on 30-285 credits

Course Aim

After completion of the course students suppose to: - understand microstructure – properties relationship for fiber reinforced polymeric matrix composites; - be able to analysis and design structural elements made of composite laminates; - acquire a practical experience in experimental measurements of mechanical properties of composites; - learn how to use commercial software for laminate analysis.

Contents

-Fiber and matrix materials, manufacture methods. -Models for unidirectional composites based on micromechanisms. -Mechanics of thin layers. -Laminated plate theory. -Thermo-mechanical effects and thermal stresses. -Failure mechanisms in fiber composites. -Failure sequence analysis of laminates. -LAP code for laminate analysis. -Experimental methods to measure mechanical properties of composites

Realization

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

Internet based lectures, seminars 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. Active participation in laboratory work, written Lab report and Home assignment report.

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.

Remarks

Course is offered within system of remote education (Internet based)

Overlap

The course T7011T is equal to MPP007

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0003	Laboratory Work with Assignment Report	6 U G VG 3 4 5 *	7.5	Mandatory	A14	

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 HUL Niklas Lehto 2020-06-18

Syllabus established

by Department of Applied Physics and Mechanical Engineering 2001-01-15