

Course: Applied Mechanics II

credits: 2

Course code	WBVH22AM2	Modes of delivery	Education
Name	Applied Mechanics II	Assessments	Applied Mechanics II - Computer, organised by STAD examinations
Study year	2022-2023		
ECTS credits	2		
Language	English		
Coordinator	J.T. Hofman		

Learning outcomes

After finishing this module the student:

- translates a given three dimensional statically loaded combined product into schematic representations of the individual parts and translates these schematic representations further into Free Body Diagrams (FBD)
- determines the external and internal loads of a construction part using the method of sections
- calculate internal stresses from the internal loads using a set of given relations
- optimises the cross-sectional area of a given prismatic shaped beam using a set of given relations by fulfilling strength and stiffness requirements
- calculates unknown forces of statically undetermined prismatic beams by combining the laws of equilibrium with the law of stiffness validates loads and stresses of beam as predicted by a FEM model by means of calculations by hand

Content

All products around use have been designed to fulfill certain requirements. In many cases, the dominant design aspects are related to strength and strain requirements. In this course (2 EC), the student will learn to translate external loads of 3-dimensional products into internal loads and stresses. Furthermore, the student will learn how to optimize product dimensions with respect to stresses and deformations. Analyses of given practical situations will be performed in a structured manner.

Included in programme(s)

Mechanical Engineering VWO a 3-year variant

School(s)

Institute of Engineering