Course: Materialiseren & Dimensioneren II — credits: 5

Course code	WBVP24MD2
Name	Materialiseren & Dimensioneren II
Study year	2026-2027
ECTS credits	5
Language	English
Coordinator	J.T. Hofman
Modes of delivery	Education
Assessments	Applied Mechanics - Written, organised by STAD examinations Materials Science - Assignment

Learning outcomes

The student:

- calculates the external and internal loads of three-dimensionally loaded composite load-bearing structures and tools.
- calculates the internal stresses of simple prismatic beams/shafts for given internal loads and checks their admissibility.
- calculates the deflection of composite prismatic beams/shafts.
- describes the differences in the physical properties of materials based on differences in their chemical properties.
- determines an optimal material for a given application using a systematic method.
- checks whether a product fails under buckling load.

Content

For an engineer, when designing composite structures, it is necessary to check if they meet strength and stiffness requirements. Through this course, internal stresses resulting from loads on composite structures are calculated. The stiffness of simple products is also calculated. This is systematically done using a framework. With knowledge of materials and their properties, a suitable material for construction components is determined.

Included in programme(s)

Mechanical Engineering

School(s)

Engineering, Life Sciences & ICT

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