Course: Applied Mechanics — credits: 5

Course code	ELVP22AMEC
Name	Applied Mechanics
Study year	2026-2027
ECTS credits	5
Language	Dutch, with parts in English, English
Coordinator	A.M. Overweel-Vogelaar
Modes of delivery	Problem-based learning
Assessments	Applied Mechanics - Assignment

Learning outcomes

Defining

The student clearly identifies a problem or customer need, contextualizes it, consults relevant sources, and converts it into a goal, problem statement, and electrical engineering requirements.

Designing

The student considers various solution directions to arrive at a detailed and well-founded electrical engineered product/service/process based on the program of requirements, using appropriate design methodologies and taking into account societal interests and engineering standards.

Content

In this course, you will learn how to answer the following question in a structured manner: “Is this part strong enough in this situation of forces?”. The two ways of answering this question will be covered in this course, namely calculations and a computer simulation.

For the manual calculations, the focus is on schematizing (simplified) situations and visualizing by drawing external forces and moments in a free body diagram. These external forces are translated to internal forces and tensions on (part of) the product in order to be answer the question whether a part is strong enough.

Additionally, using software, this question is answered by visualizing the deformation and tension as a consequence of external forces on a product.

Included in programme(s)

Electrical Engineering Major Mechatronics
Electrical Engineering Major Sensors & Smart Systems
Electrical Engineering Major Energy & Power Electronics

School(s)

Engineering, Life Sciences & ICT

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