Course
Specifications
Valid as from the academic year 2019-2020

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Lecturers in academic year 2019-2020
Parmentier, Davy
TW18
staff member
Monte, Michael
TW08
lecturer-in-charge

Offered in the following programmes in 2019-2020
Bachelor of Science in Industrial Design Engineering Technology 6 A
Preparatory Course Master of Science in Industrial Design Engineering Technology 6 A

Teaching languages
Dutch

Keywords
construction, dimensioning, design, project

Position of the course
To gain insight into the design and dimensioning of a construction.

Contents
Theory and exercises:
• analysis of mechanisms
• kinematics and dynamics
• virtual work
• buckling
• structural analysis
• friction
• Capita selecta in function of project
Project:
• mechanisms and analysis in function of the project:
  • Design to shape and stiffness
  • Designing mechanisms and movement
  • Design of connections
  • Dimensioning and technical drawing
  • Construction and testing of prototypes
  • Use of CAD for creating 3D and 2D drawings.

Initial competences
The course builds further on certain competences that are achieved in following courses: mechanics, mechanics of materials and materials

Final competences
1. Is able to design a construction with appropriate technical dimensions.
2. Is able to link the shape and the selected materials of the design to structural aspects
3. Can interpret the results of test and customize his design to this.

(Approved)
4 Working in team on a design
5 Methodically explore, investigate, substantiate and document to the stakeholders about all design decisions

Conditions for credit contract
Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
This course unit cannot be taken via an exam contract

Teaching methods
Lecture, project

Learning materials and price
the electronic learning environment

References
Hibbeler (statics, dynamics and mechanics of materials)

Course content-related study coaching
Theory and exercises 2 hours / week
Project 3 hours / week
Consult

Evaluation methods
end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Written examination, oral examination, report

Examination methods in case of periodic evaluation during the second examination period
Written examination, oral examination, report

Examination methods in case of permanent evaluation
Participation
Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible in modified form

Extra information on the examination methods
NPE 35% Continuous assessment Project
PE1 35% Reports and Engineering drawings with oral defense
PE1 30% Written examination

PE2 35% Reports and Engineering drawings with oral defense
PE2 30% Written examination

Calculation of the examination mark
First examination period: NPE 35% + PE1 35% + PE1 30%
In order to pass for the course a score of at least 7/20 must be achieved for both the written examination, report as well as the oral examination. If this condition is not met, a deviation from the calculated score (if 10 or more) will be made and the score will be lowered to 9/20

Second examination period: NPE 35% + PE2 35% + PE2 30%
In order to pass for the course a score of at least 7/20 must be achieved for both the written examination, report as well as the oral examination. If this condition is not met, a deviation from the calculated score (if 10 or more) will be made and the score will be lowered to 9/20