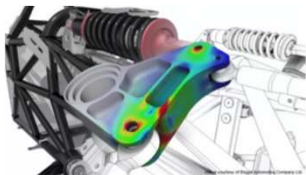




**GHENT
UNIVERSITY**

BACHELOR & MASTER OF SCIENCE ELECTROMECHANICAL ENGINEERING

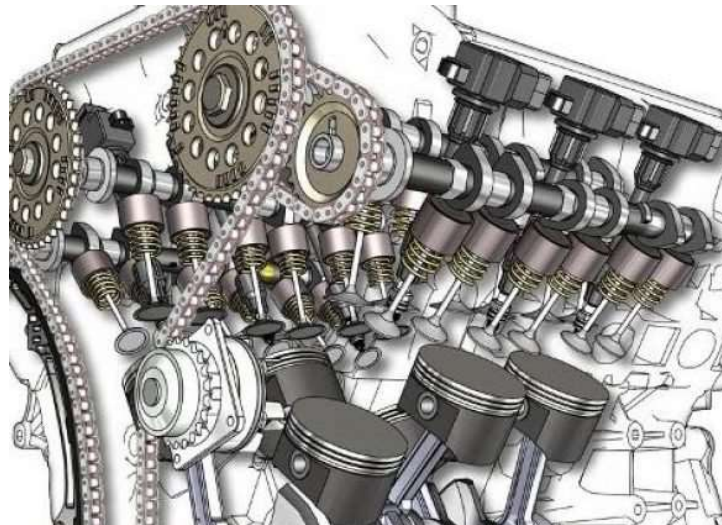
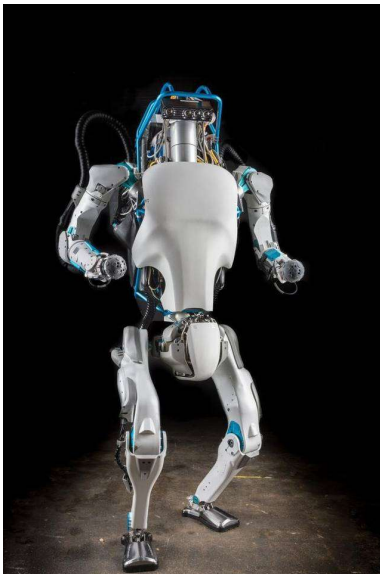
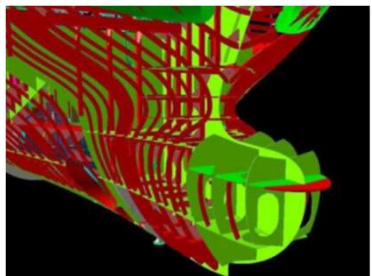
Prof. M. De Paepe



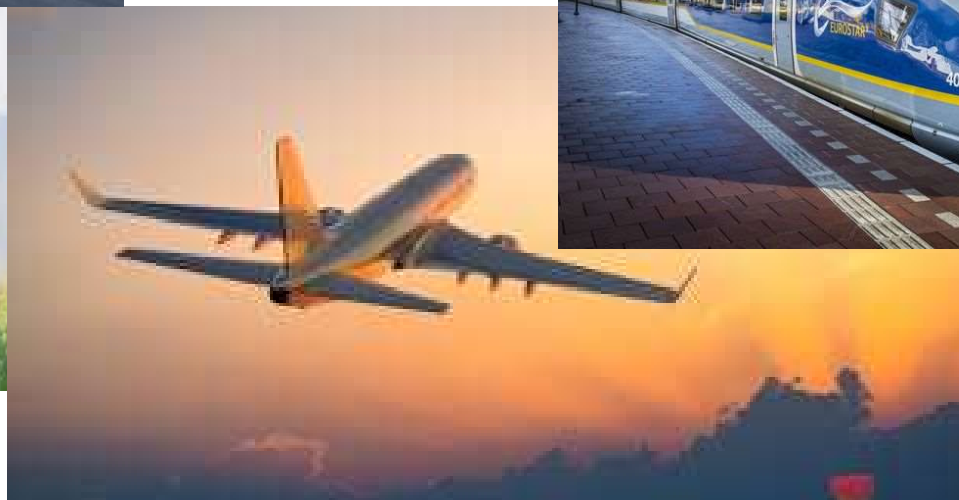
WERKTUIGKUNDE-ELEKTROTECHNIEK (WE)

De opleiding WE bouwt verder op jullie kennis van
MECHANICA.

Technische toepassingen die draaien rond
beweging, krachten en energie.

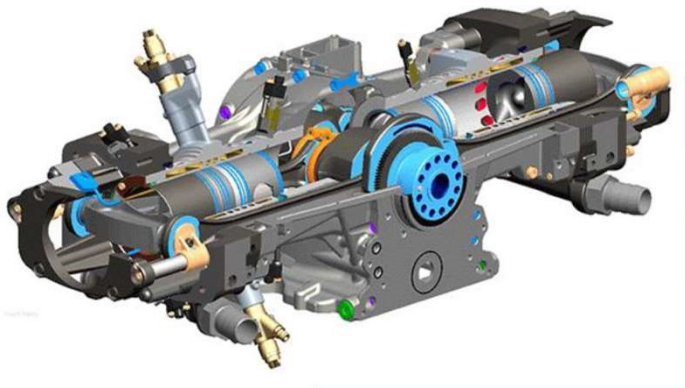


VOERTUIGEN



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MACHINES & ROBOTS

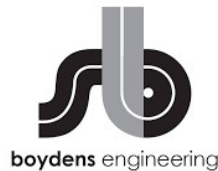


ENERGIEVOORZIENING



WERKGELEGENHEID

Zeer veelzijdige studie en zeer veel
gevraagd in de industrie



INHOUD VAN DE BACHELOR

1e bachelor

1e Semester	SP
Wiskundige basistechniek	3
Wiskundige analyse I	5
Algemene scheikunde I	6
Informatica	6
Discrete wiskunde I	4
Ingenieursproject I	6

2e Semester	SP
Bedrijfskunde	3
Natuurkunde I	6
Wiskundige analyse II	4
Meetkunde en lineaire algebra	8
Materiaaltechnologie	5
Waarschijnlijkheidsrekening en statistiek	4

2e bachelor

1e Semester	SP
Wiskundige analyse III	6
Natuurkunde II	6
Elektrische schakelingen en netwerken	6
Mechanica van materialen	6
Transportverschijnselen	6

2e Semester	SP
Statistische gegevensverwerking	3
Elektronische systemen en instrumentatie	6
Machineonderdelen	6
Ingenieursproject II	3
Mechanische productietechnologie	3
Dynamica van starre lichamen	3
Inleiding tot numerieke wiskunde	3
Scheikunde: capita selecta	3

3e bachelor

1e Semester	SP
Systemen en signalen	6
Kinematica en dynamica van mechanismen	6
Warmte- en verbrandingstechniek	6
Elektrische energienetten	3
Elektromagnetische energieomzetting	6
Keuzevak	3

2e Semester	SP
Technische thermodynamica	6
Vakoverschrijdend project	6
Mechanica van structuren	5
Modelleren en regelen van dynamische systemen	6
Elektrische aandrijftechniek	7

LEERLIJN MECHANISCHE CONSTRUCTIE

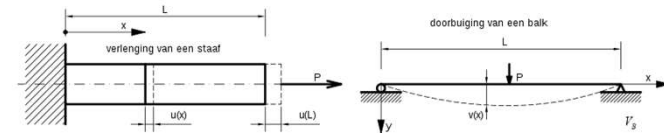
Machineonderdelen



Mechanische productietechnologie

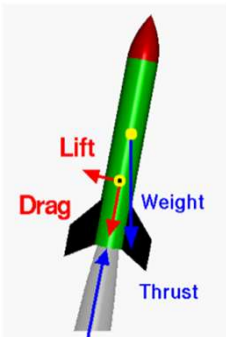
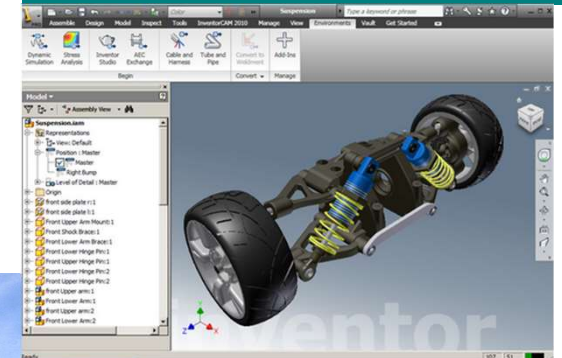


Mechanica van materialen



Mechanische constructie

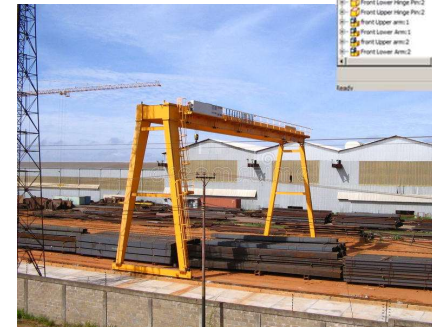
Ingenieursproject II



Dynamica van starre lichamen



Kinematica en dynamica van mechanismen

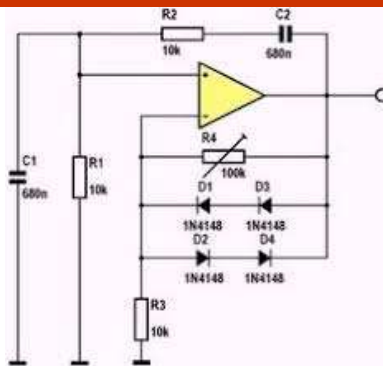


Mechanica van structuren



LEERLIJN ELEKTRISCHE ENERGIE

Elektrische schakelingen en netwerken



Elektrische energietechniek

Elektromagnetische energieomzetting

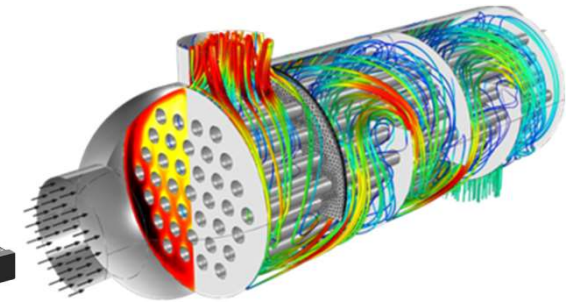
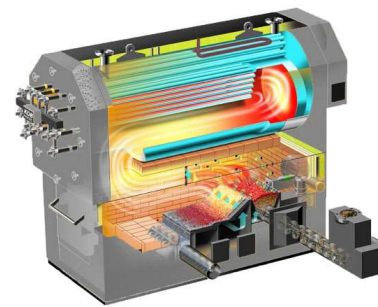
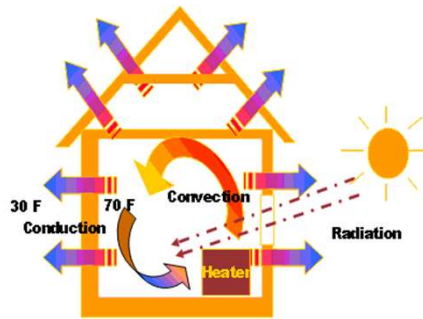
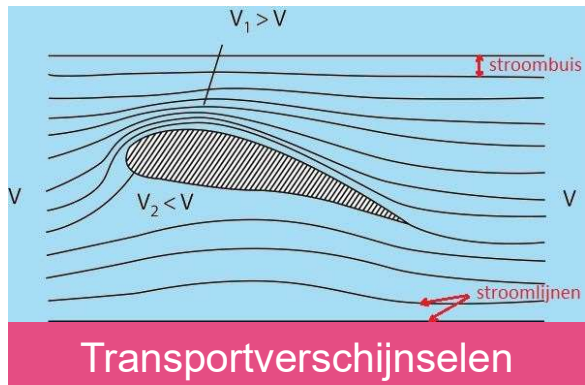


Elektrische netten

Elektrische aandrijfstechniek

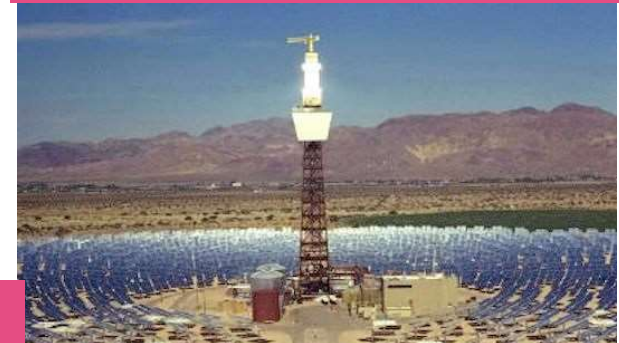


LEERLIJN STROMING EN WARMTE



Stroming en warmte

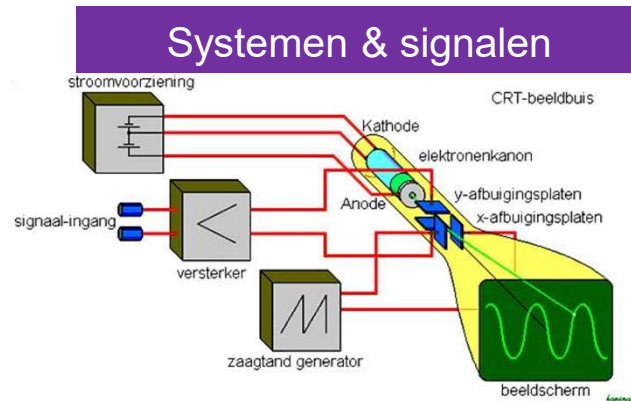
Warmte- & verbrandingstechniek



Technisch thermodynamica



REGELTECHNIEK & AUTOMATISERING



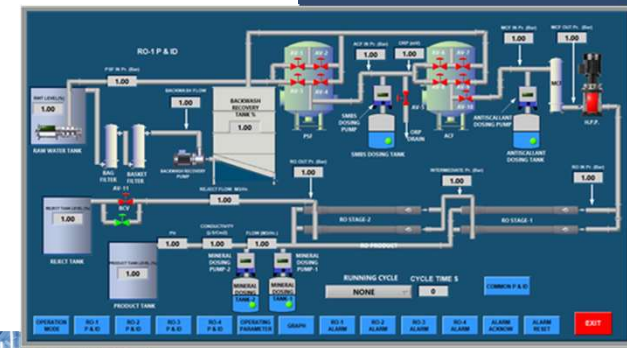
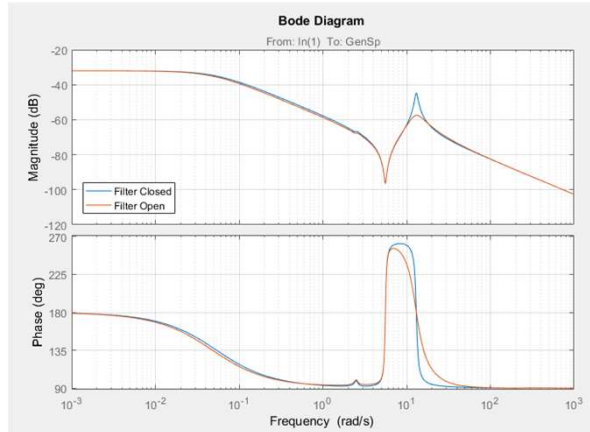
The Fourier Transform

$$\mathcal{F}\{g(t)\} = G(f) = \int_{-\infty}^{\infty} g(t)e^{-i2\pi ft} dt$$

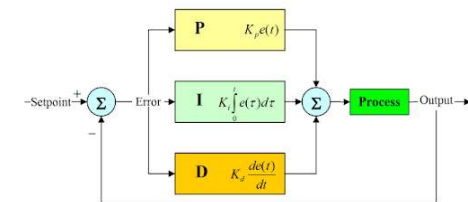
$$\mathcal{F}^{-1}\{G(f)\} = g(t) = \int_{-\infty}^{\infty} G(f)e^{i2\pi ft} df$$



Regeltechniek en automatisering



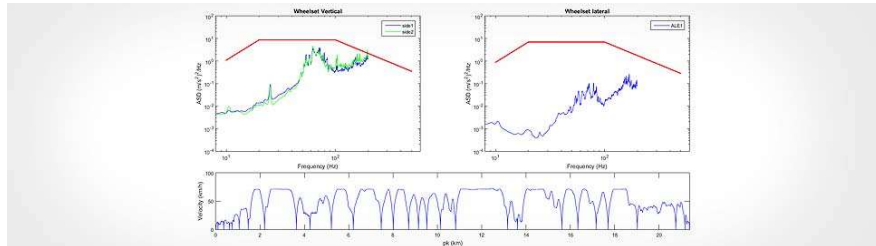
Robot factory



Modelleren en regelen van dynamische systemen

DUURZAAMHEID – NUMERIEKE TECHNIEKEN

Inleiding tot de numerieke wiskunde



Kinematica en dynamica van mechanismen

Numerieke technieken

Duurzaamheid

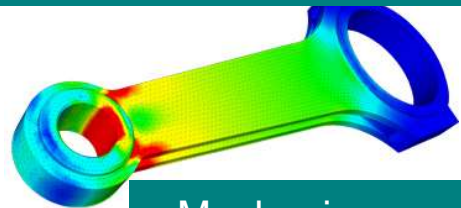
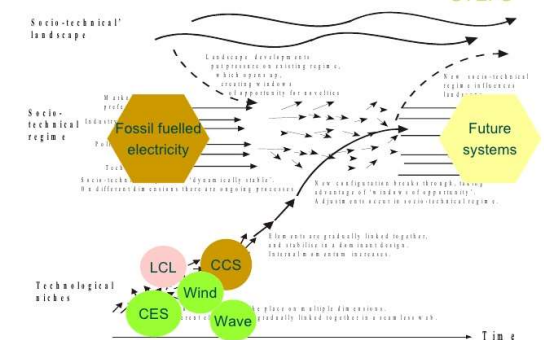
Vakoverschrijdend project



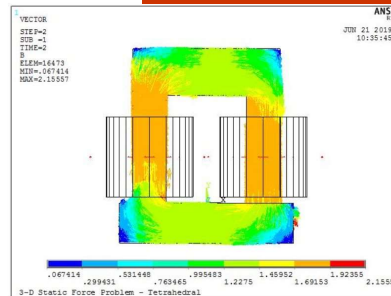
Technisch thermodynamica

Elektrische netten

Transition analysis: a multi-level perspective



Mechanica van structuren



Elektromagnetische energieomzetting

Warmte- & verbrandingstechniek

DE MASTER – 5 OPTIES

Elektrische Energietechniek

1e master

1e Semester	SP
Controlled electrical drives	6
Displacement pumps	6
Turbomachines	6
Nuclear reactor theory	3

2e Semester	SP
Mechanical vibrations	6
Sensor based measurement	3
ICT & Mechatronics	6
Power electronics	3
Electrical power system anal	6

Jaarvakken	SP
Keuzevakken	15

2e master

1e Semester	SP
Manufacturing planning	6
Dynamics of electrical mach	6
Electrical power generation	3
Electrical machine design	6

2e Semester	SP
Technology of electrical inst	3
Operational aspects of elect	3

Jaarvakken	SP
Masterproef	24
Keuzevakken	9

Mechanische Constructie

1e master

1e Semester	SP
Controlled electrical drives	6
Displacement pumps	6
Turbomachines	6
Manufacturing and TQA	6

2e Semester	SP
Mechanical vibrations	6
ICT & Mechatronics	6
Mechanics of electromech	6
Material selection in mech	6

Jaarvakken	SP
Keuzevakken	12

2e master

1e Semester	SP
Manufacturing planning	6
Mechanical material model	3
Fracture mechanics	3
Machine design	6

2e Semester	SP
Sensor based measurement	3
Construction techniques	3

Jaarvakken	SP
Masterproef	24
Keuzevakken	12

Mechanische Energietechniek

1e master

1e Semester	SP
Controlled electrical drives	6
Displacement pumps	6
Turbomachines	6
Manufacturing planning	6
Thermal installations	6

2e Semester	SP
Mechanical vibrations	6
Sensor based measurement	3
Computational fluid dynami	6
Material selection in mech	6
IC Engines	3

Jaarvakken	SP
Keuzevakken	6

2e master

1e Semester	SP
Electrical power generation	3
HVAC-R	3
Gas turbines	3
Fluid mechanics	3

2e Semester	SP
ICT & Mechatronics	6

Jaarvakken	SP
Masterproef	24
Keuzevakken	18

Maritieme Techniek

1e master

1e Semester	SP
Controlled electrical drives	6
Displacement pumps	6
Turbomachines	6
Introduction to maritime tec	6

2e Semester	SP
Mechanical vibrations	6
ICT & Mechatronics	6
Hydrostatics and propulsion	6
General arrangement, struc	6

Jaarvakken	SP
Keuzevakken	12

2e master

1e Semester	SP
Manufacturing planning	6
Structural stability	6
Manoeuvring and seakeepin	6
Design of maritime structur	3

2e Semester	SP
Construction techniques	3

Jaarvakken	SP
Masterproef	24
Keuzevakken	12

Regeltechniek en Automatisering

1e master

1e Semester	SP
Controlled electrical drives	6
Displacement pumps	6
Turbomachines	6
Computer control of industr	6

2e Semester	SP
Mechanical vibrations	6
ICT & Mechatronics	3
Linear systems	6
Modelling and simulation of	6

Jaarvakken	SP
Keuzevakken	12

2e master

1e Semester	SP
Manufacturing planning	6
Non-linear systems	6
Servo systems and industrial	3
Dynamics of electrical mach	6

2e Semester	SP
Power electronics	3

Jaarvakken	SP
Masterproef	24
Keuzevakken	12

PKARUS

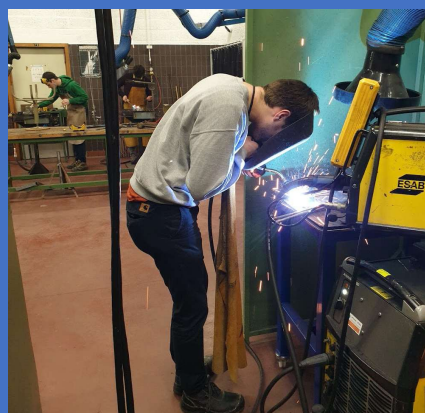
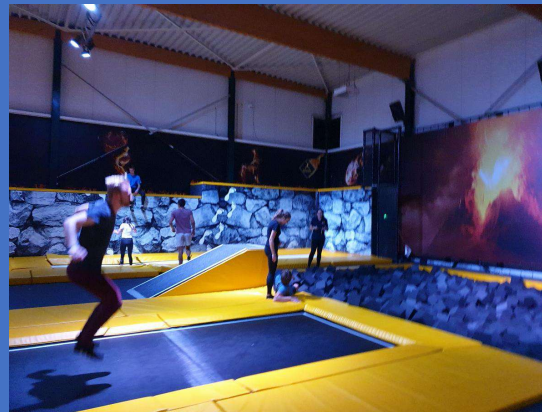
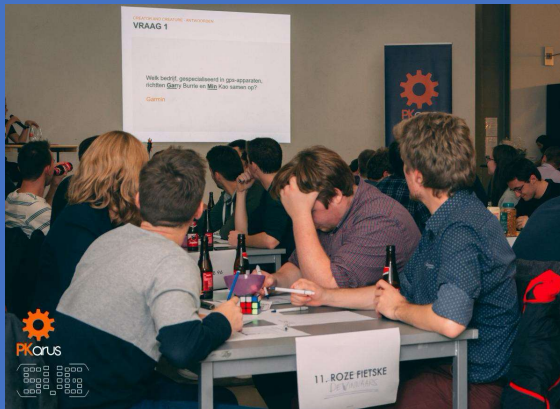
PKARUS is een vereniging door en voor studenten burgerlijk ingenieur **werktuigkundig-elektrotechniek**

Organiseren van vele studie gerelateerde activiteiten

- Bedrijfsbezoeken (ExxonMobil, Jan De Nul, ArcelorMittal, ...)
- Hands-on workshops (Lascursus, automechanica, ...)
- Stage en job event



PKARUS in enkele beelden



Michel De Paepe

Professor

DEPARTMENT OF ELECTROMECHANICAL,
SYSTEMS AND METAL ENGINEERING

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 Michel De Paepe

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