Course: Power Electronics — credits: 3

Course code	ELVH17GVE
Name	Power Electronics
Study year	2022-2023
ECTS credits	3
Language	Dutch, with parts in English
Coordinator	A. Hoogerwerf
Modes of delivery	Lecture Practical / Training Simulation
Assessments	Power Electronics - Report

Learning outcomes

- Knows the general behaviour of active electronic components functioning as switches.
- Knows various possibilities of electronic power conversion and is able to select them for practical application.
- Can analyse the currents and voltages in the circuits for energy conversions
- Can identify the possible EMC consequences of the application of power electronics

The student learns in a practical manner:

- To measure Power electronics circuits
- To select the correct measuring devices/methods for non-sinusoidal quantities.

Content

- Static and dynamic behaviour of electronic components functioning as switches
- Possible methods of energy conversion
- Behaviour of passive components in power electronics
- 1-phase diodes and thyristor bridges
- 1- and 3-phase diode bridges combined with energy buffers
- Voltage conversion with buck and boost converters
- Methods of modulation for 1 and 3-phase inverters
- EMC of power electronics circuirts

Included in programme(s)

Electrical Engineering Major Electronics

School(s)

Institute of Engineering

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