Power electronics

Lecturer
Johan GYSELINCK (Coordinator)

Course mnemonic
ELEC-H312

ECTS credits
5 credits

Language(s) of instruction
English

Course period
Second term

Campus
Solbosch

Course content

The material is organised in 5 chapters:

- Introduction
- Diode bridge rectifiers
- Thyristor converters
- Universal bridge converters (multi-quadrant choppers, inverters/rectifiers)
- Single-quadrant choppers

Objectives (and/or specific learning outcomes)

The study of the basic converter types in power electronics: theory, simulation and laboratory work.

Pre-requisits and co-requisits

Pre-requisites courses

ELEC-H2001 | Electromagnétisme | 5 crédits

Teaching method and learning activities

- Ex-cathedra classes (with simulation demos)
- Practical work sessions (laboratory exercises and simulation with MATLAB/Simulink/Simscape/Electrical/Specialized Power Systems)

References, bibliography and recommended reading

- N. Mohan, T. Undeland, W. Robbins, Power electronics - converters, applications and design, John Wiley & Sons, 3rd edition, 2004, 802 p.
- T. Wildi, G. Sybille, Electrotechnique, DeBoeck Unversité, 4ième édition, 2005, 1215 p.

Course notes

Université virtuelle

Other information

Place(s) of teaching

Solbosch

Contact(s)

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Evaluation method(s)

written examination and Practice exam

Main language(s) of evaluation

English

Programmes

Programmes proposing this course at the Brussels School of Engineering

BA-IRCI | Bachelor in Engineering Sciences | option Bruxelles/unit 3