

# University of Pretoria Yearbook 2018

## Power electronics 320 (EDF 320)

**Qualification** Undergraduate

**Faculty** [Faculty of Engineering, Built Environment and Information Technology](#)

**Module credits** 16.00

**Programmes** [BEng Electrical Engineering](#)  
[BEng Electrical Engineering ENGAGE](#)

**Prerequisites** ELX 311 GS, ELI 220 GS

**Contact time** 1 practical per week, 1 tutorial per week, 3 lectures per week

**Language of tuition** Module is presented in English

**Department** Electrical, Electronic and Computer Engineering

**Period of presentation** Semester 2

### Module content

Semiconductor components: Power diodes, silicon-controlled-rectifiers, bipolar transistors, power mosfets, IGBTs, emerging devices. Ancillary issues: Heat sinks, snubbers, gate drive circuits. Converter topologies: AC-DC converters, DC-DC converters; Applications: Sizing of converter components, isolated high-frequency power supplies.

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