



Course

# Power Electronics

ELEC4614

6 Units of Credit

## Overview

Power semiconductor switching devices and their limitations; Switching characteristics, protection and limitations of various types of power semiconductor switches; Elementary concepts in power electronics; Application of power electronic converters in energy conversion, utility applications and power supplies and utilizations; Diode rectifier circuits, multi-pulse rectifiers, input and output waveform characterization, filter design. Non isolated DC-DC converters, circuits topologies, characteristics with continuous and discontinuous conduction, circuit design and control considerations, Quadrant operation; Isolated DC-DC converters, transformer design issues, core resetting; Single-phase and three-phase DC-AC inverters, modulation strategies, output waveform analysis and filter design; Utility interfaces; High power applications; Converter system implementation

**Faculty**

Faculty of Engineering

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**School**

School of Electrical Engineering & Telecommunications

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**Study Level**

Postgraduate

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**Offering Terms**

Term 1

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**Campus**

Kensington

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**Indicative contact hours**

4

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**Timetable**

[Visit timetable website for details](#)

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## **Equivalent Courses**

ELEC4240 6 UOC

Power Electronics

## **Course Outline**

To access course outline, please visit:

[ELEC4614 Course Outline](#)

## Fees

Commonwealth Supported Students \$1191

Domestic Students \$4470

International Students \$5910

### **DISCLAIMER**

Please note that the University reserves the right to vary student fees in line with relevant legislation. This fee information is provided as a guide and more specific information about fees, including fee policy, can be found on the [fee website](#).

For advice about fees for courses with a fee displayed as "Not Applicable", including some Work Experience and UNSW Canberra at ADFA courses, please contact the relevant Faculty.

Where a Commonwealth Supported Students fee is displayed, it does not guarantee such places are available.

## **Pre-2019 Handbook Editions**

Access past handbook editions (2018 and prior)

[Pre-2019 Handbook Editions](#)

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Authorised by Deputy Vice-Chancellor (Academic)

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