

ELEC 7008 INSTRUMENTATION AND MEASUREMENT (PG)

Credit Points 10

Legacy Code 300515

Coordinator Gaetano Gargiulo ([https://directory.westernsydney.edu.au/search/name/Gaetano Gargiulo/](https://directory.westernsydney.edu.au/search/name/Gaetano%20Gargiulo/))

Description This subject covers topics associated with the measurement and presentation of physical parameters. A wide range of transducers are presented in detail, while instrumentation includes a detailed analysis of a multitude of analogue and digital circuits used to amplify, transmit, and display electrical signals. The application of these modules in modern measurement equipment is presented in details.

School Eng, Design & Built Env

Discipline Electronic Engineering

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate program.

Assumed Knowledge

Instrumentation and Measurement (PG).

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Explain limitations of and apply a wide range of transducers
2. Design and analyse systems used for process control
3. Explain the techniques and trade-offs involved in A/D and D/A conversion
4. Design and specify requirements for interfacing a large number of analogue signals to a digital controller
5. Design complete instrumentation systems

Subject Content

Transducers
Amplification techniques (signal conditioning)
Digital-to-analogue conversion
Analog-to-digital conversion
Digital devices

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Presentation	20 minutes	30	N	Individual	Y
Quiz	1 hour	20	N	Individual	Y
Applied Project	5 A4 pages	30	N	Individual	Y
Applied Project	5 A4 pages	20	N	Individual	Y

Teaching Periods

Autumn (2025)

Parramatta City - Macquarie St

On-site

Subject Contact Gaetano Gargiulo ([https://directory.westernsydney.edu.au/search/name/Gaetano Gargiulo/](https://directory.westernsydney.edu.au/search/name/Gaetano%20Gargiulo/))

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC7008_25-AUT_PC_1#subjects)