ENGR 3004 BIOMEDICAL SIGNALS AND DATA ANALYSIS

Credit Points 10

Legacy Code 301121

Coordinator Gaetano Gargiulo (https://directory.westernsydney.edu.au/search/name/Gaetano Gargiulo/)

Description This subject will cover recent advances in biomedical signal and data analysis including electrocardiography, electroencephalography, human-computer-interface, electromyography, biomedical images and spikes processing. Topics covered span from basic to advanced signal processing. This subject will have a strong practical design focus with laboratories and tutorials focused on the design of usable software packages dealing with real biomedical signals.

School Eng, Design & Built Env

Discipline Biomedical 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 Undergraduate Level 3 subject

Pre-requisite(s) ELEC 2001 OR
ENGR 2001

Assumed Knowledge

Basic programming skills.

Learning Outcomes

After successful completion of this Subject, students will be able to:
1. Process biomedical signals
2. Write user-interface to automatically/aid expert scoring signals
3. Understand the production of biomedical images

Subject Content

1. Introduction to Biomedical Signals
2. Digital filters for Biomedical Signals
3. Automated scoring of Biomedical Signals
4. Biomedical images: production and processing

Special Requirements

Essential equipment

Access to a computer at SCEM computer Labs.

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
Professional Task	8 submissions required	50	N	Individual	Y
Practical Exam	2 hours	50	N	Individual	Y

Teaching Periods

Spring (2025)
Penrith (Kingswood)
Hybrid
Subject Contact Gaetano Gargiulo (https://directory.westernsydney.edu.au/search/name/Gaetano Gargiulo/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ENGR3004_25-SPR_KW_3#subjects)

Parramatta City - Macquarie St
Hybrid
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