

ELEC 1006 ENGINEERING COMPUTING

Credit Points 10

Legacy Code 300027

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

Description Engineering computing is an introduction to using computation to solve real problems. The subject also aims to instil sound principles of program design that can be utilised in many subjects throughout the students' course. The basic elements and structures of a high level language are taught. Students are exposed to numerous engineering problems and are encouraged to implement solutions using an algorithmic approach.

School Eng, Design & Built Env

Discipline Other Engineering And Related Technologies

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 1 subject

Equivalent Subjects ELEC 1008 Engineering Computing (WSTC)
ELEC 1007 Engineering Computing (WSTC Assoc Deg)

Assumed Knowledge

Basic knowledge in use of computers and Windows operating system.

Learning Outcomes

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

1. Utilise a typical software development environment.
2. Develop solutions to problems using an algorithmic approach.
3. Apply data structures of a common programming language, to translate an algorithm into a coded program. These programming structures should include the following as a minimum - Selection and Repetition statements - Functions - 1 & 2 dimensional Arrays - File processing
4. Implement basic features of data manipulation and graphing using a spreadsheet program, such as EXCEL.

Subject Content

Spread sheet applications - Spread sheet operations
Spreadsheet applications - Spreadsheet functions and macros
Spread sheet applications - Solving engineering problems using spreadsheets
Structured programming - Introduction to programming environment
Structured programming - Decision structures
Structured programming - Repetition structures
Structured programming - Modular programming
Structured programming - Exchanging data with external files
Problem solving & algorithm development will be embedded in each section

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
Quiz	1 hour each	60	N	Individual	Y
Final Exam	2 hours	35	N	Individual	Y
Participation	20 hours	5	N	Individual	Y

Prescribed Texts

- Moore, H 2012, MATLAB for engineers, 3rd edn, Pearson Prentice Hall, Boston MA

Teaching Periods

Sydney City Campus - Term 2 (2024)

Sydney City

On-site

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=ELEC1006_24-SC2_SC_1#subjects)

Autumn (2025)

Penrith (Kingswood)

On-site

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

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC1006_25-AUT_KW_1#subjects)

Parramatta City - Macquarie St

On-site

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

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC1006_25-AUT_PC_1#subjects)

Sydney City Campus - Term 1 (2025)

Sydney City

On-site

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

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC1006_25-SC1_SC_1#subjects)

Sydney City Campus - Term 3 (2025)

Sydney City

On-site

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

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC1006_25-SC3_SC_1#subjects)

Summer (2025)

Online

Online

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

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC1006_25-SUM_ON_2#subjects)