ELEC 1007 ENGINEERING COMPUTING (WSTC ASSOCD)

Credit Points 10

Legacy Code 700106

Coordinator Upeka Kuruppu (https://directory.westernsydney.edu.au/search/name/Upeka Kuruppu/)

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 1006 - Engineering Computing ELEC 1008 - Engineering Computing (WSTC)

Restrictions Students must be enrolled in 7022 Associate Degree in Engineering

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.
4. Implement basic features of data manipulation and graphing using a spreadsheet program, such as EXCEL.

Subject Content

1. Spreadsheet applications - Spreadsheet operations
2. Spreadsheet applications - Spreadsheet functions and macros
3. Spreadsheet applications - Solving engineering problems using spreadsheets
4. Structured programming - Introduction to programming environment

5. Structured programming - Decision structures
6. Structured programming - Repetition structures
7. Structured programming - Modular programming
8. Structured programming - Exchanging data with external files
9. 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	30 minutes (approx.)	15	N	Individual	N
Intra-session Exam	1.5 hours (approx.)	30	N	Individual	N
Report	Approximately between 50-100 lines of command code – 3 weeks duration	15	N	Individual	N
Applied Project	2 hours	40	N	Individual	N

Prescribed Texts

- Moore, H 2012, MATLAB for engineers, 3rd edn, Pearson Prentice Hall, Boston Ma.
- Larsen R 2013, Engineering with Excel, 4th Ed Pearson Prentice Hall, Upper Saddle River, NJ.

Teaching Periods

Quarter 2 (2025)

Nirimba Education Precinct

Hybrid

Subject Contact Zdenka Misanovic (https://directory.westernsydney.edu.au/search/name/Zdenka Misanovic/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC1007_25-Q2_BL_3#subjects)