ELEC 1008 ENGINEERING COMPUTING (WSTC)

Credit Points 10

Legacy Code 700018

Coordinator Abbas Ranjbar (https://directory.westernsydney.edu.au/search/name/Abbas Ranjbar/)

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 utilized 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

Pre-requisite(s) Students enrolled in 7066 or 7162 Diploma in Engineering Extended or 7082 Bachelor of Engineering Extended (WSTC First Year Program) must pass COMP 0001 Introductory Programming (WSTC Prep) before enrolling in this unit

Co-requisite(s) Before taking ELEC 1008 students in program 6033 must have passed or be registered in MATH 0008 PHYS 0003 and GEDU 0008

Equivalent Subjects ELEC 1006 - Engineering Computing ELEC 1007 - Engineering Computing (WSTC Assoc Deg)

Restrictions Students must be enrolled at Western Sydney University, The College unless specific permission has been granted by the School of Computing, Engineering & Mathematics. Students enrolled in Extended Diplomas must pass 40 credit points from the preparatory subjects listed in the program structure prior to enrolling in this University level subject. Students enrolled in the combined Diploma/Bachelor programs listed below must pass all College Preparatory subjects listed in the program structure before progressing to the Year2 subjects.

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 be included 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

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
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
Practical	50 minutes	10	N	Individual	N
Practical	1 hour	30	N	Individual	N
Practical	1 hour	20	N	Individual	N
End-of-session Exam	2 hours	40	N	Individual	N

Teaching Periods

Term 1 (2025)
Penrith (Kingswood)
On-site

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

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC1008_25-T1_KW_1#subjects)