COMP 1006 PROGRAMMING FUNDAMENTALS (WSTC)

Credit Points 10

Legacy Code 700008

Coordinator Maria Mikhail (https://directory.westernsydney.edu.au/search/name/Maria Mikhail/)

Description As a first subject in computer programming, Programming Fundamentals covers the basics of developing software with an emphasis on procedural programming. Students will learn about basic data structures, the concept of algorithms, fundamental programming constructs, common programming language features and functions, program design and good programming style. A high level programming language is combined with a highly visual framework to teach problem solving using software.

School Computer, Data & Math Sciences

Discipline Programming

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 7067 Diploma in Information and Communications Technology Extended must pass LANG 0002 Academic Communication 2 (WSTC Prep) or LANG 0032 English for Tertiary Study 2 (WSTC Prep) or LANG 0039 Introduction to Academic Communication 2 (WSTC Prep) and must pass INFO 0008 Computer Studies (WSTC Prep) and must pass COMP 0003 Programming Design (WSTC Prep) and must pass MATH 0008 Mathematics 2 (WSTC Prep) before enrolling in this unit

Students enrolled in 6035 DiplomaBachelor of Information and Communications Technology 6036 Diploma in Information and Communications TechnologyBachelor of Information Systems and 7005 Diploma in Information and Communications Technology must pass COMP 0003 Programming Design (WSTC Prep) before enrolling in this unit

Students enrolled in 6038 Dip in Information and Communications Technology BICT(HIM) 6039 Diploma in Information and Communications TechnologyBICT 6040 Diploma in Information and Communications TechnologyBIS 7067 Diploma in Information and Communications Technology Extended 7134 Diploma in Information and Communications Technology Extended - ICT 7138 Diploma in Information and Communications Technology Extended-ICT 7139 Diploma in Information and Communications Technology Extended 7140 Diploma in Information and Communications Technology Extended–IS 7141 Diploma in Information and Communications Technology Extended-HIM 7163 Diploma in Information and Communications Technology(International) and 7164 Dip Information and Communications Technology (HIM) (International) must pass COMP 0003 Programming Design (WSTC Prep) and must pass MATH 0008 Mathematics 2 (WSTC Prep) before enrolling in this unit

Equivalent Subjects COMP 1004 - Fundamentals of Programming LGYA 5799 - Programming Principles 1 LGYA 4364 - Business Application Development 1 COMP 1005 - Programming Fundamentals

Restrictions

Students must be enrolled at Western Sydney University, The College. 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 Year 2 subjects.

Learning Outcomes

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

1. With a chosen programming language in mind ? analyse a given problem and from a simple problem description, identify desired inputs, outputs and the necessary processing operations to convert input into output;
2. Develop an algorithm that applies structured programming techniques that solve the given problem;
3. Choose suitable data types to store relevant data for the given problem;
4. Design and code programs which use standard programming concepts; variables, sequence, loops, decision making constructs, mathematical and Boolean operators, as well as functions;
5. Apply top-down modular design principles to programming problems and implement the solution using the chosen programming language.

Subject Content

1. Fundamentals of procedural programming including:
a) variables and data types
b) performing calculations
c) sequence
d) compound statements
e) decision making constructs
f) looping constructs
g) problem solving techniques
h) writing and using functions
i) one dimensional arrays
2. Keyboard input
3. Techniques of algorithm development
4. Using variables ? selecting variable names and variable scope
5. Functions, function return values and parameter passing
6. Arrays

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
Portfolio	20 mins each wk	10	N	Individual	N
Quiz	X2 (10%) 60 mins each	20	N	Individual	N
Applied Project	700-800 lines of code	20	N	Individual	N

End-of-session Exam	2 hours	50	Y	Individual	Y

Online Blocks A-F

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
Portfolio task	2 x 400 words	30	N	Individual	
Professional Task	800 words	30	N	Individual	
Applied project	1000 words (equivalent to 300 lines of code)		N	Individual	

Prescribed Texts

- Gaddis. T. (2016). Starting out with Java: from control structures through objects (6th Ed.). Boston : Pearson

Teaching Periods

Term 2 (2025)

Penrith (Kingswood)

On-site

Subject Contact Maria Mikhail (https://directory.westernsydney.edu.au/search/name/Maria Mikhail/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1006_25-T2_KW_1#subjects)

Parramatta City - George St

On-site

Subject Contact Maria Mikhail (https://directory.westernsydney.edu.au/search/name/Maria Mikhail/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1006_25-T2_PG_1#subjects)