

COMP 1012 PROGRAMMING FUNDAMENTALS (UG CERT)

Credit Points 10

Legacy Code 500047

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

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

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 COMP 1004 Fundamentals of Programming LGYA 5799 Programming Principles 1
 LGYA 4364 Business Application Development 1 COMP 1005 Programming Fundamentals
 COMP 1006 Programming Fundamentals

Restrictions

Only students enrolled in program 7174 Undergraduate Certificate in ICT can enrol

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
Portfolio	2 x 400 words	20	N	Individual
Presentation	7-10 Minutes	20	N	Individual
Professional Task	800 words	30	N	Individual
Applied Project	1000 words (equivalent to 300 lines of code)	30	N	Individual