The College

COMP0002

INTRODUCTORY PROGRAMMING

2021

SUBJECT OUTLINE

Last amended:	August 2021

Western Sydney University The College
Nirimba Education Precinct
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Subject name	Introductory Programming
Subject number	COMP0002
Coordinator	Zdenka Misanovic
Session	2021.3
Handbook summary	This subject introduces students to the principles required for the effective design and development of computer programs. This subject has been developed to help students acquire an understanding of essentials in designing programs theoretically and implementing them practically, using an integrated development environment (IDE).
Credit point value	10
Prerequisite/s	N/A
Corequisite/s	N/A
Subject incompatible with and not to be counted for credit with	N/A
Assumed knowledge	The ability to create a mathematical expression for a given problem scenario. This would require knowledge of basic arithmetic, percentages and simple statistical measures.
Subject level	Level Z — Non-award subject
Attendance requirements	Students are expected to attend at least 80% of classes. Educational research consistently demonstrates that this attendance level is associated with a high likelihood of achieving a passing grade.
Enrolment restrictions	Students must be enrolled at The College.
Learning outcomes	On successful completion of this subject, students should be able to: 1. define terms such as structured programming, variables, constants, control structures, modularisation, cohesion, coupling, function, procedures, parameters and arguments 2. illustrate the steps involved in program development 3. solve problems and illustrate solutions using sequence control structure with flowcharts and/or pseudocode, which are then coded in a 3GL language such as C++ 4. solve problems and illustrate solutions using selection control structure flowcharts, pseudocode and translate to C++ 5. solve problems and illustrate solutions using iteration control structure flowcharts, pseudocode and translate to C++ 6. solve problems using modularisation with parameter passing 7. code, debug and test programs in C++ using an Integrated Development Environment (IDE), and 8. develop a set of input test data and desk check pseudocode.

Subject content	In this subject, students will learn about: • introduction to steps in program design and development • problem solving and developing algorithms using IPO charts, flow charts and pseudocode • sequence control structure • selection control structures using IF and CASE statements • repetition control structures using REPEAT, WHILE and FOR loops • modularisation, procedures/void functions, functions and parameter passing • input output data tables and desk check tables • use of an Integrated Development Environment (IDE), and • translating pseudocode into C++ using correct syntax.
Mode of delivery	This subject consists of six hours of supervised computer laboratory sessions. In addition, students will be required to access vUWS regularly, in order to download additional learning material, and to check for any announcements about the subject that may be posted there.
Online learning requirements	
Essential requirements	**Recommended texts** Allain, A 2012, *Jumping into C++*, CProgramming.com, San Francisco, CA. The College*, Introductory programming workbook*, Western Sydney University The College, Sydney. **Additional readings** Farrell, J 2013, *Programming logic and design: comprehensive version*, 7th edn, Course Technology, Boston, Mass. Robertson, LA 2006, *Simple program design: a step-by-step approach*, 5th edn, Cengage Learning, Australia, South Melbourne, Vic. **Essential equipment** A USB flash memory drive is strongly recommended for transporting files between home and The College.

ASSESSMENT ITEMS AND WEIGHTING

Assessment for this subject will be based on the following components:

Task	Weighting	Learning outcomes assessed	Mandatory task
1. Class work	20%	3–8	Yes
2. Class test (1.5 hours)	20%	3–5	Yes
3. Project	20%	3–8	Yes
4. End of Session exam (2 hours)	40%	1–8	Yes
TOTAL	100%		

For details of assessment due dates, please refer to the learning guide for this subject.

All marks will be determined in accordance with The College Assessment Policy.

All assessment tasks are mandatory unless otherwise specified. Should a student fail to attempt/submit the first formal assessment task in a subject, they will be deemed to be at risk and will need to follow an intervention plan in order not to receive a Fail Non-Submission (FNS) grade. However, failure to attempt/submit all other mandatory assessment tasks will result in an immediate FNS grade for the subject.

To pass this subject, students must:

- attempt/submit all mandatory assessment tasks, including the End of Session exam, and
- achieve a minimum overall mark of 50%.