COMP 1005 PROGRAMMING FUNDAMENTALS

Credit Points 10

Legacy Code 300580

Coordinator Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

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

Equivalent Subjects COMP 1004 - Fundamentals of Programming LGYA 5799 - Programming Principles 1 LGYA 4364 - Business Application Development 1 COMP 1006 - Programming Fundamentals (WSTC)

Assumed Knowledge

High school mathematics at Year 10 level.

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
Quiz	15 minutes	S/U	Y	Individual	Y
Portfolio	2 hours per week	40	Y	Individual	Y
Quiz	60 minutes	20	N	Individual	N
Applied Project	The solution file is expected to be approximate 500-700 lines of code.	20	N	Individual	N
Final Exam	2 hours, closed book	20	Y	Individual	Y

WSU Online Trimesters

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	5 attempts 1 hour	0	Y	Individual	Y
Portfolio	7 practicals	30	Y	Individual	Y
Quiz	One hour	10	N	Individual	Y
Applied Project	700 lines of code	10	N	Individual	Y
Final Exam	2 hours	50	Y	Individual	Y

Prescribed Texts

- Bogdanovych, A., & Trescak, T. (2021), Learning Java Programming in Clara's World, Springer, https://doi.org/10.1007/978-3-030-75542-3

Teaching Periods

Autumn (2025)
Campbelltown
On-site
Subject Contact Rhys Tague (https://directory.westernsydney.edu.au/search/name/Rhys Tague/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-AUT_CA_1#subjects)

Penrith (Kingswood)
On-site
Subject Contact Rhys Tague (https://directory.westernsydney.edu.au/search/name/Rhys Tague/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-AUT_KW_1#subjects)

Parramatta - Victoria Rd
On-site
Subject Contact Rhys Tague (https://directory.westernsydney.edu.au/search/name/Rhys Tague/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-AUT_PS_1#subjects)

Sydney City Campus - Term 1 (2025)
Sydney City
On-site
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-SC1_SC_1#subjects)

Sydney City Campus - Term 2 (2025)
Sydney City
On-site
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-SC2_SC_1#subjects)

Spring (2025)
Campbelltown
On-site
Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-SPR_CA_1#subjects)

Penrith (Kingswood)
On-site
Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-SPR_KW_1#subjects)

Parramatta - Victoria Rd
On-site
Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-SPR_PS_1#subjects)

Surabaya Semester 1 (2025)
Surabaya
On-site
Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-IS1_SU_1#subjects)

Sydney City Campus - Term 3 (2025)
Sydney City
On-site
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-SC3_SC_1#subjects)

Summer (2025)
Parramatta - Victoria Rd
On-site
Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP1005_25-SUM_PS_1#subjects)