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 unit 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 HECS Band contribution amount 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.

Item	Length	Percent	Threshold	Individual/ Group Task
Quiz	15 minutes	0	Y	Individual
Portfolio	2 hours per week	40	Y	Individual
Quiz	60 minutes	20	N	Individual
Applied Project	The solution file is expected to be approximately 500-700 lines of code.	20	N	Individual
Final Exam	2 hours, closed book	20	Y	Individual

Prescribed Texts

- Bogdanovych, A., & Trescak, T. (2021). Learning Java Programming in Clara�es World. Springer. https://doi.org/10.1007/978-3-030-75542-3
- Gaddis, T. (2016). Starting out with Java: from control structures through objects (6th ed.). Boston: Pearson.

Teaching Periods

Summer A
Parramatta - Victoria Rd
Day
Subject Contact Dean Preston (https://directory.westernsydney.edu.au/search/name/Dean Preston/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-SUA_PS_D#subjects)

Autumn
Campbelltown
Day
Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-AUT_CA_D#subjects)

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-AUT_KW_D#subjects)

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-AUT_PS_D#subjects)

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-SC1_SC_D#subjects)

WSU Online TRI-2
Wsu Online
Online
Subject Contact Natasha Daraio (https://directory.westernsydney.edu.au/search/name/Natasha Daraio/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-OT2_OW_O#subjects)

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-SC2_SC_D#subjects)

Spring
Campbelltown
Day
Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-SPR_CA_D#subjects)

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-SPR_KW_D#subjects)

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-SPR_PS_D#subjects)

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1005_22-SC3_SC_D#subjects)