



<https://courseoutline.auckland.ac.nz/dco/course/COMPSCI/101/1203>

COMPSCI 101 : Principles of Programming

Science

2020 Semester One (1203) (15 POINTS)

Course Prescription

An introduction to computers and computer programming in a high-level language. The role of computers and computer professionals in society is also introduced. The course is intended for students who may wish to advance in Computer Science or in Information Systems and Operations Management.

Course Overview

This course introduces computer programming using the Python programming language. The main focus is on learning to understand the detailed requirements of a programming task, and writing programs that are well structured, correct and easy to read. The course covers simple variables, expressions, input and output, control structures, functions, using standard data structures such as lists and dictionaries, and using standard Python modules.

Course Requirements

Restriction: Cannot be taken with or after COMPSCI 105, 107, 130, 210-220, 230-289, 313-399

Capabilities Developed in this Course

- Capability 1: Disciplinary Knowledge and Practice
- Capability 2: Critical Thinking
- Capability 3: Solution Seeking
- Capability 4: Communication and Engagement
- Capability 5: Independence and Integrity

Graduate Profile: [Bachelor of Science](#)

Learning Outcomes

By the end of this course, students will be able to:

1. Determine the state of the program both during and after execution, given a code listing that may include functions and parameters, loops, conditionals and sequences (Capability 1, 2 and 3)
2. Implement a given algorithm using Python (Capability 1, 2, 3 and 4)
3. Show that a program meets given specifications by writing appropriate tests (Capability 1, 2 and 3)
4. Provide a useful level of documentation, in the form of program comments, for all programs developed (Capability 1, 2, 4 and 5)
5. Decompose a simple problem into several smaller tasks, given a brief textual description of the problem (Capability 1, 2, 3 and 4)
6. Compose functions that perform a specified task into a program that solves a given problem (Capability 1, 2, 3 and 4)

Assessments

Assessment Type	Percentage	Classification
Laboratory	9%	Individual Coursework
Assignment	15%	Individual Coursework
Online Test 1	20%	Individual Test
Final exam	25%	Individual Examination
Coderunner Timed Exercises	6%	Individual Coursework
Online Test 2	25%	Individual Test
6 types	100%	

Assessment Type	Learning Outcome Addressed					
	1	2	3	4	5	6
Laboratory	✓	✓	✓	✓	✓	✓
Assignment	✓	✓	✓	✓	✓	✓
Online Test 1	✓	✓			✓	✓
Final exam	✓	✓			✓	✓
Coderunner Timed Exercises	✓	✓			✓	✓
Online Test 2	✓	✓			✓	✓

Learning Resources

Lecture slides will be available before the lectures and lecture recordings will be available after each lecture. An online textbook, *Think Python*

(<https://www.cs.auckland.ac.nz/courses/compsci101s1c/resources/thinkpython.pdf>), can be used to

supplement material covered in lectures. The lecture slides and the online textbook will be available through our course website and Canvas. Lecture recordings are only available on Canvas.

Special Requirements

- 1) To pass the course, as well as obtaining a Final Mark of at least 50% overall, students must pass both the final written exam and the invigilated Practical component (Online Test 1 plus Online Test 2).
- 2) Both Online Tests will be held in the evening.

Workload Expectations

This course is a standard 15 point course and students are expected to spend 10 hours per week involved in each 15 point course that they are enrolled in.

For this course, you can expect 3 hours of lectures, a 2 hour lab, 2 hours of reading and thinking about the content and 3 hours of work on assignments and/or test preparation.

Digital Resources

Course materials are made available in a learning and collaboration tool called Canvas which also includes reading lists and lecture recordings (where available).

Please remember that the recording of any class on a personal device requires the permission of the instructor.

Copyright

The content and delivery of content in this course are protected by copyright. Material belonging to others may have been used in this course and copied by and solely for the educational purposes of the University under license.

You may copy the course content for the purposes of private study or research, but you may not upload onto any third party site, make a further copy or sell, alter or further reproduce or distribute any part of the course content to another person.

Academic Integrity

The University of Auckland will not tolerate cheating, or assisting others to cheat, and views cheating in coursework as a serious academic offence. The work that a student submits for grading must be the student's own work, reflecting their learning. Where work from other sources is used, it must be properly acknowledged and referenced. This requirement also applies to sources on the internet. A student's assessed work may be reviewed against online source material using computerised detection mechanisms.

Inclusive Learning

All students are asked to discuss any impairment related requirements privately, face to face and/or in written form with the course coordinator, lecturer or tutor.

Student Disability Services also provides support for students with a wide range of impairments, both visible and invisible, to succeed and excel at the University. For more information and contact details, please visit the Student Disability Services' website at <http://disability.auckland.ac.nz>

Special Circumstances

If your ability to complete assessed coursework is affected by illness or other personal circumstances outside of your control, contact a member of teaching staff as soon as possible before the assessment is due.

If your personal circumstances significantly affect your performance, or preparation, for an exam or eligible written test, refer to the University's aegrotat or compassionate consideration page: <https://www.auckland.ac.nz/en/students/academic-information/exams-and-final-results/during-exams/aegrotat-and-compassionate-consideration.html>.

This should be done as soon as possible and no later than seven days after the affected test or exam date.

Student Feedback

During the course Class Representatives in each class can take feedback to the staff responsible for the course and staff-student consultative committees.

At the end of the course students will be invited to give feedback on the course and teaching through a tool called SET or Qualtrics. The lecturers and course co-ordinators will consider all feedback.

Your feedback helps to improve the course and its delivery for all students.

Student Charter and Responsibilities

The Student Charter assumes and acknowledges that students are active participants in the learning process and that they have responsibilities to the institution and the international community of scholars. The University expects that students will act at all times in a way that demonstrates respect for the rights of other students and staff so that the learning environment is both safe and productive. For further information visit Student Charter (<https://www.auckland.ac.nz/en/students/forms-policies-and-guidelines/student-policies-and-guidelines/student-charter.html>).

Disclaimer

Elements of this outline may be subject to change. The latest information about the course will be available for enrolled students in Canvas.

In this course you may be asked to submit your coursework assessments digitally. The University reserves the right to conduct scheduled tests and examinations for this course online or through the use of computers or

other electronic devices. Where tests or examinations are conducted online remote invigilation arrangements may be used. The final decision on the completion mode for a test or examination, and remote invigilation arrangements where applicable, will be advised to students at least 10 days prior to the scheduled date of the assessment, or in the case of an examination when the examination timetable is published.