



Science

COMPSCI 101 : Principles of Programming (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.

The course is designed for students who do not have any prior programming experience. For students who wish to continue with Computer Science, this course will prepare them for the core Stage I paper COMPSCI 130.

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 a 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 and add into a program that solves a given problem (Capability 2, 3 and 4)

Assessments

Assessment Type	Percentage	Classification
Laboratories	9%	Individual Coursework
Assignments	15%	Individual Coursework
Mid-semester CodeRunner Test	25%	Individual Test
Coderunner Timed Exercises	6%	Individual Coursework
Final Exam (on CodeRunner)	45%	Individual Examination
5 types	100%	

Assessment Type	Learning Outcome Addressed					
	1	2	3	4	5	6
Laboratories	✓	✓	✓	✓	✓	✓
Assignments	✓	✓	✓	✓	✓	✓
Mid-semester CodeRunner Test	✓	✓			✓	✓
Coderunner Timed Exercises	✓	✓			✓	✓
Final Exam (on CodeRunner)	✓	✓			✓	✓

To pass the course a student must pass the invigilated component of the course (test + exam) as well as getting at least 50% of the overall mark.

Tuākana

The School of Computer Science Tuākana programme provides support for this course. See: <https://canvas.auckland.ac.nz/courses/34081>. For more information and to find contact details for the School of Computer Science Tuākana coordinator, please see <https://www.auckland.ac.nz/en/science/study-with->

us/maori-and-pacific-at-the-faculty/tuakana-programme.html.

Special Requirements

1) To pass the course a student must pass the invigilated component of the course (test + exam) as well as getting at least 50% of the overall mark.

Workload Expectations

This course is a standard 15 point course and students are expected to spend 20 hours per week involved in each 15 point course that they are enrolled in over Summer School.

For this course, you can expect 6 hours of lectures, two 2 hour labs, 4 hours of reading and thinking about the content and 6 hours of work on assignments and/or test preparation.

Delivery Mode

Campus Experience

Attendance is required at scheduled activities including labs to receive credit for components of the course.

Lectures will be available as recordings. Other learning activities including labs will not be available as recordings.

The course will include live online test revision sessions.

Attendance on campus is required for the online tests and final exam.

The activities for the course are scheduled as a standard weekly timetable.

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/compsci101ssc/resources/thinkpython.pdf>), can be used to supplement material covered in lectures and labs. The lecture slides and the online textbook will be available through our course website and Canvas. Lecture recordings are only available on Canvas.

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.

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.

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.

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.

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](http://disability.auckland.ac.nz) <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) <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.

Learning Continuity

In the event of an unexpected disruption we undertake to maintain the continuity and standard of teaching and learning in all your courses throughout the year. If there are unexpected disruptions the University has contingency plans to ensure that access to your course continues and your assessment is fair, and not compromised. Some adjustments may need to be made in emergencies. You will be kept fully informed by your course co-ordinator, and if disruption occurs you should refer to the University Website for information about how to proceed.

Level 1: Delivered normally as specified in the delivery mode

Level 2: You will not be required to attend in person. All teaching and assessment will have a remote option.

The following activities will also have an on campus / in person option: lectures, labs, office hours

Level 3 / 4: All teaching activities and assessments are delivered remotely

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) <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.