

Stage I courses

All Stage I courses are offered every semester.

You must take **COMPSCI 101 - Principles of Programming** followed by **COMPSCI 105 - Principles of Computer Science** if you plan to major in Computer Science.

Note: You must pass the practical (labs and assignments) and the theory (test and exam) sections separately to pass the course as a whole for most COMPSCI courses.

Key to course code information

COMPSCI	Computer Science course
101-111	Stage I level courses
210-280	Stage II level courses
313-380	Stage III level courses
SS	Summer School
S1	Semester 1
S2	Semester 2
C	City Campus
T	Tāmaki Innovation Campus
E	Epsom Campus

COMPSCI 111/111G

SS C, S1 C, S2 C and E

Mastering Cyberspace: An Introduction To Practical Computing

A practical introduction to computing that will build confidence and familiarity with computers. Topics include: web site design, an overview of computer hardware and operating systems, effective use of common applications, using the internet as a communication medium, applying programming concepts, and social implications of technology. As part of their practical work, students will create web pages, and develop skills with a variety of home and office applications including word processing, spreadsheets, PowerPoint and databases.

Prerequisites None

Assessment 20% lab assignments, 20% test, 60% examination

Coordinator Ann Cameron

Required Text A course book and lab manual can be purchased from the University Book Shop.

Note There are three lectures per week, and students will be required to attend one three-hour laboratory per week.

Important You must pass the practical (labs) and the theory (test and exam) sections separately to pass the course as a whole.

Web www.cs.auckland.ac.nz/courses/compsci111s1c

COMPSCI 101 must be taken by all students wishing to advance in Computer Science.

This course introduces computer programming in the Java 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 and methods, an introduction to the standard Java classes, single dimensional arrays and graphical user interface programming.

This course has a significant practical component. Students attend three lectures and one two-hour lab session per week. Extra practical work can be done either in the Computer Science laboratory or on a modern Java-compatible computer elsewhere.

Assessment 15% assignments, 10% labs, 15% test, 60% exam

Required Text The coursebook can be purchased from the University Book Shop.

Important You must pass the practical (labs and assignments) and the theory (test and exam) sections separately to pass the course as a whole.

Web www.cs.auckland.ac.nz/courses/compsci101s1c

The 105 course must be taken by all students wishing to advance in Computer Science. It extends the programming skills of the Principles of Programming course, emphasising good software design through an appreciation of data structures and code efficiency. The course provides an introduction to multi-dimensional arrays, exception handling, recursion, and file input and output. The importance of abstraction and abstract data types is illustrated through the study of traditional data structures (such as lists, stacks, queues, trees, priority queues, heaps and hash tables). The performance characteristics of different implementations of these data structures are studied, aided by an introduction to the performance of searching and sorting algorithms.

This course has a significant practical component. Students attend three lectures and one tutorial per week. Extra practical work can be done either in the Computer Science laboratory or on a modern Java-compatible computer elsewhere.

Prerequisites COMPSCI 101

Assessment 25% assignments, 10% test and 65% exam

Required Text Data Abstraction and Problem Solving with Java: Walls & Mirrors (2nd edition)
Frank M. Carrano & Janet J. Pritchard - Addison Wesley

Important You must pass the practical (assignments) and the theory (test and exam) sections separately to pass the course as a whole.

Web www.cs.auckland.ac.nz/courses/compsci105s1c