Computer Science

The computer science program aims to develop skilled computer scientists with the technical background, knowledge, and adaptability to contribute to the development of well-designed, robust, computer-based solutions to a range of problems in business and industry.

Students study computer science (including introduction to computer programming, algorithms and problem solving, software development) and mathematics. Subjects available in third year include artificial intelligence, database systems, computer networks, and graphics.

At all year levels there is a focus on the cultivation of practical skills together with assimilation of the relevant scientific principles. Teaching methods involve a combination of lectures, tutorials, and practical work. Tutorials are provided at all years.

Students taking computer science subjects will be required to spend time on practical assignments in addition to lectures, laboratory classes and tutorials.

Faculty of Arts requirements

Students undertaking the Bachelor of Arts are permitted to enrol in a range of subjects offered by other faculties, but must complete a minimum of 50 points of first-year subjects in areas of study approved by the Faculty of Arts, see *Arts-approved subject requirement (p.5)* for more information.

Students wishing to undertake a major in computer science will need to plan their course carefully to ensure they meet both computer science prerequisites and Faculty of Arts requirements.

Please note that computer science is not available at fourth year for BA (Honours) students. Students interested in fourth-year options are invited to contact the Department of Computer Science and Software Engineering.

Combined course students are not permitted to enrol in these subjects for credit towards the arts component of the combined degree. Please consult a Faculty of Arts course adviser for more information.

Prerequisites

First year

Students are advised that a knowledge of VCE Mathematical Methods is assumed.

Requirements for a major

Ordinary degree

A major in computer science consists of a minimum of ten 12.5-point subjects, totalling 125 points, plus 25 points of mathematics or statistics. It comprises:

First year		Sem.
Core subjects:		
433-171	Introduction to Programming *(p.17)*	1 rep 2
or		
433-151	Introduction to Programming (Advanced) *(p.16)*	1
and		
433-172	Algorithmic Problem Solving *(p.17)*	2 rep Summer
or		
433-152	Algorithmic Problem Solving (Advanced) *(p.17)*	2
In addition students should complete a mathematics requirement of at least 25 points at first year.		

Second year		Sem.
Core subjects:		
433-252	Software Engineering Principles & Tools *(p.17)*	1 rep 2
433-253	Algorithms and Data Structures *(p.17)*	1 rep 2
433-254	Software Design *(p.18)*	1 rep 2
433-255	Logic and Computation *(p.18)*	1 rep 2

Third year		Sem.
Students should complete at least 50 points of third-year computer science subjects, including four of:		
433-303	Artificial Intelligence *(p.18)*	2
433-313	Computer Design *(p.18)*	2
433-330	Theory of Computation *(p.18)*	1
433-332	Operating Systems *(p.18)*	1
433-341	Software Engineering Process & Practice *(p.19)*	1
433-342	Software Engineering Methods *(p.19)*	2
433-351	Database Systems *(p.19)*	1
433-353	Networks and Communications *(p.20)*	2

Third year		Sem.
433-361	Programming Language Implementation *(p.20)*	N/A
433-371	Interactive System Design *(p.20)*	2
433-380	Graphics and Computation *(p.20)*	1
433-385	Modelling, Analysis and Visualisation *(p.20)*	2
433-395	Advanced Topic in Computer Science *(p.21)*	2

For more information

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