

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.4)* 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 (<i>p.16</i>)	1 rep 2
or	
433-151 Introduction to Programming (Advanced) (<i>p.15</i>)	1
and	
433-172 Algorithmic Problem Solving (<i>p.16</i>)	1 rep 2, Summer
or	
433-152 Algorithmic Problem Solving (Advanced) (<i>p.16</i>)	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 (<i>p.16</i>)	1 rep 2
433-253 Algorithms and Data Structures (<i>p.16</i>)	1 rep 2
433-254 Software Design (<i>p.17</i>)	1 rep 2
433-255 Logic and Computation (<i>p.17</i>)	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 (<i>p.17</i>)	2
433-313 Computer Design (<i>p.17</i>)	2
433-330 Theory of Computation (<i>p.17</i>)	1
433-332 Operating Systems (<i>p.18</i>)	1
433-341 Software Engineering Process & Practice (<i>p.18</i>)	1
433-342 Software Engineering Methods (<i>p.18</i>)	2
433-351 Database Systems (<i>p.18</i>)	1
433-353 Networks and Communications (<i>p.18</i>)	2

Third year	Sem.
433-361 Programming Language Implementation (<i>p.19</i>)	2
433-371 Interactive System Design (<i>p.19</i>)	2
433-380 Graphics and Computation (<i>p.19</i>)	1
433-385 Modelling, Analysis and Visualisation (<i>p.19</i>)	2

For more information

Ms Louise Walker
 Department of Computer Science and Software Engineering
 ICT Building
 111 Barry Street
 The University of Melbourne
 Victoria 3010
 Tel: +61 3 8344 1311
 fax: +61 3 9348 1184
 Web: <http://www.cs.mu.oz.au/courses/ugrad/arts.html>

