

# Bachelor of Computer Science (C2001) – 2024

## Advanced computer science specialisation

### Year 1 (48 credit points)

<b>First Semester</b>	<b>FIT1045</b> Introduction to programming	<b>FIT1047</b> Introduction to computer systems, networks and security	<b>MAT1830</b> Discrete mathematics for computer science	<b>Elective</b>
<b>Second Semester</b>	<b>FIT1008</b> Fundamentals of algorithms [FIT1045]	<b>FIT1049</b> IT professional practice [12 pts FIT study] OR <b>FIT1055</b> IT professional practices and ethics	<b>MAT1841</b> Continuous mathematics for computer science	<b>Elective</b>

### Year 2 (48 credit points)

<b>First Semester</b>	<b>FIT2004</b> Algorithms and data structures [FIT1008 and (MAT1830 or FIT1058)]	<b>FIT2099</b> Object-oriented design and implementation [One of FIT1045 or FIT1008]	<b>FIT2094</b> Databases [FIT1045]	<b>Elective</b>
<b>Second Semester</b>	<b>FIT2014</b> Theory of computation [FIT1008 and MAT1830]	<b>FIT2102</b> Programming paradigms [FIT1008]	<b>Elective</b>	<b>Elective</b>

### Year 3 (48 credit points)

<b>First Semester</b>	<b>FIT3161 *</b> Computer science project 1 [FIT2004]	<b>Level 3 *</b> Computer Science Approved Elective**	<b>Elective</b>	<b>Elective</b>
<b>Second Semester</b>	<b>FIT3162 *</b> Computer science project 2 [FIT3161]	<b>FIT3155</b> Advanced data structures and algorithms [FIT2004]	<b>FIT3143</b> Parallel computing [FIT2004]	<b>Elective</b>

### \*\* Approved Computer Science Electives (choose 1)

FIT3080 Artificial intelligence	FIT3165 Computer networks
FIT3139 Computational modelling and simulation	MTH3170 Network mathematics
FIT3146 Maker lab	MTH3175 Network mathematics (Advanced)
FIT3159 Computer architecture	

**Note that not all units will be taught every year and some will be offered only in alternate years.**

### \* Industry Based Learning (IBL)

- Students accepted into the IBL program will replace FIT3161, FIT3162 and the Level 3 Computer Science Approved Elective with FIT3045 Industry based learning (18 points).
- IBL placements will normally be completed in semester 1 of third year for BCS Advanced Computer Science students.
- Students completing an IBL placement must overload in one semester OR complete a summer unit in order to complete the course in 3 years.

### Notes

<b>Credit points</b>	Unless specified, all units are worth 6 credit points Bachelor of Computer Science 24 units x 6 credit points = Total of 144 credit points
<b>Year Level Requirements</b>	1) Normally 48 points, and a maximum of 60 points, of first year level units will be counted; 2) At least 36 points must be completed at third year level.
<b>Unit requisites</b>	All pre-requisite and co-requisite requirements must be undertaken in order to be able to enrol into a specific unit
<b>Duration of degree</b>	3 years full-time, 6 years part-time
<b>Time limit</b>	Time limit = 8 years. Students have eight years in which to complete this award from the time they commence first year. Periods of intermission are counted as part of the eight years.
<b>Monash University handbook</b>	Students should follow the course requirements for the year the course was commenced <a href="https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology">https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology</a>