

# Bachelor of Computer Science (C2001) – 2026

## Algorithms and software specialisation

|        |                 |                                                                                                                                                    |                                                                                                            |                                                                                                                                   |          |
|--------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------|
| Year 1 | First Semester  | <b>FIT1045</b><br>Introduction to programming                                                                                                      | <b>FIT1047</b><br>Introduction to computer systems, networks and security                                  | <b>FIT1058</b><br>Foundations of computing<br><b>Replace with:</b><br><b>MAT1830</b><br>Discrete mathematics for computer science | Elective |
|        | Second Semester | <b>FIT1008</b><br>Fundamentals of algorithms<br><b>Replace with:</b><br><b>FIT2115</b><br>Data structures and algorithms 1                         | <b>FIT1049</b><br>IT professional practice<br>OR<br><b>FIT1055</b><br>IT professional practices and ethics | Elective                                                                                                                          | Elective |
| Year 2 | First Semester  | <b>FIT2004</b><br>Algorithms and data structures<br><b>Replace with:</b><br><b>FIT3234</b><br>Data structures and algorithms 2                     | <b>FIT2094</b><br>Databases                                                                                | <b>FIT2099</b><br>Object-oriented design and implementation                                                                       | Elective |
|        | Second Semester | <b>FIT2014</b><br>Theory of computation                                                                                                            | <b>FIT2102</b><br>Programming paradigms                                                                    | <b>FIT2109</b><br>Computer science workshop                                                                                       | Elective |
| Year 3 | First Semester  | <b>FIT3161 *</b><br>Computer science project 1<br><b>Replace with:</b><br><b>FIT3230</b><br>Computer science in practice: project 1                | <b>FIT3155</b><br>Advanced data structures and algorithms                                                  | <b>Level 3 *</b><br>Algorithms and software<br>Approved Elective**                                                                | Elective |
|        | Second Semester | <b>FIT3162 *</b><br>Computer science project 2<br><b>Replace with (from S2 2027):</b><br><b>FIT3231</b><br>Computer science in practice: project 2 | <b>FIT3143</b><br>Parallel computing                                                                       | Elective                                                                                                                          | Elective |

\*\* Approved Algorithms and software Electives (choose 1)

|                                                |                                            |
|------------------------------------------------|--------------------------------------------|
| FIT3080 Artificial intelligence                | FIT3196 Computer architecture and 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 to complete the course in 3 years.

### Notes

|                                   |                                                                                                                                                                                                                                                                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Credit points</b>              | Unless specified, all units are worth 6 credit points<br>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;<br>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 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<br><a href="https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology">https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology</a> |