

# BACHELOR OF COMPUTER SCIENCE (C2001) - 2025

(Specialisation : Algorithms and software )

## Year 1 / Level 1 (48 credit points)

|                   |                                                                                                                            |                                                                                   |                                                                                                                                   |          |
|-------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------|
| February 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 |
| July Semester     | <b>FIT1008</b><br>Fundamentals of algorithms<br><b>Replace with:</b><br><b>FIT2115</b><br>Data structures and algorithms 1 | <b>FIT1055</b><br>IT professional practice and ethics<br>[12 points of FIT units] | Elective                                                                                                                          | Elective |

## Year 2 / Level 2 (48 credit points)

|                   |                                                                                                                                |                                                                                            |                                                          |          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------|----------|
| February 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>FIT2099</b><br>Object-oriented design and implementation<br>[One of FIT1045 or FIT1008] | <b>FIT2094</b><br>Databases<br>[FIT1045 or FIT1051]      | Elective |
| July Semester     | <b>FIT2014</b><br>Theory of computation<br>[FIT1008 & (FIT1058 or MAT1830)]                                                    | <b>FIT2102</b><br>Programming paradigms<br>[FIT1008]                                       | <b>FIT2109</b><br>Computer science workshop<br>[FIT1008] | Elective |

|                 |                                                                                                                             |  |  |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Summer Semester | <b>FIT3199</b> Industry work experience<br>(0 credit points)<br>[Completed a minimum of 96 credit points including FIT1055] |  |  |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|--|--|--|

## Year 3 / Level 3 (48 credit points)

|                   |                                                                                                                                     |                                                                        |                                                                 |          |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------|----------|
| February Semester | <b>FIT3161</b><br>Computer science project 1<br>[FIT1055, FIT2004, FIT2094, FIT2099 & 72 pts of study inc. 60 pts of FIT/MAT units] | <b>FIT3155</b><br>Advanced data structures and algorithms<br>[FIT2004] | <b>*Level 3</b><br>Algorithms and software<br>Approved Elective | Elective |
| July Semester     | <b>FIT3162</b><br>Computer science project 2<br>[FIT3161]                                                                           | <b>FIT3143</b><br>Parallel computing<br>[FIT2004]                      | Elective                                                        | Elective |

## List of elective units offered at the School of Information Technology, Monash University Malaysia.

The following electives are offered at both the Australia and Malaysia campuses. If you intend to apply for the [global intercampus program](#), please refer to the [course handbook](#) for electives which are offered specifically at the Australia campus. In addition to the minimum one level 3 computer science approved elective, you can utilize the elective slots in the course map to enrol for additional level 3 computer science electives.

Apart from the listed electives below, you may opt to enrol for electives offered by other courses at Monash University, provided that you fulfil the unit prerequisites. **Please note that elective unit offerings may vary from year to year.**

### Level 1 Electives

FIT1043 Introduction to data science  
FIT1051 Programming fundamentals in JAVA

FIT1056 Introduction to software engineering  
FIT1059 Artificial intelligence for everyone

### Level 2 Electives

FIT2081 Mobile application development  
FIT2086 Modelling for data analysis  
FIT2093 Cybersecurity tools and techniques

FIT2100 Operating systems  
FIT2101 Software engineering process & management  
FIT2107 Software quality and testing

### \*Level 3 Algorithms and software Approved Elective

FIT3080 Artificial intelligence  
FIT3159 Computer architecture

FIT3182 Big data management and processing

### Level 3 Electives

FIT3003 Business intelligence & data warehousing  
FIT3077 Software engineering: Architecture and design  
FIT3134 Entrepreneurship  
FIT3152 Data analytics  
FIT3154 Advanced data analysis  
FIT3179 Data visualisation  
FIT3181 Deep learning  
FIT3183 Malicious AI & dark side security

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### Additional 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                                                                                                                                                                                                                             |
| <b>Course duration</b>            | You have a maximum of 8 years to complete this course including any periods of intermission and suspension and must be continuously enrolled throughout.                                                                                      |
| <b>Monash University handbook</b> | Students should follow the course requirements for the year the course was commenced<br><a href="https://www.monash.edu/students/handbooks/faculty-info/undergrad/it">https://www.monash.edu/students/handbooks/faculty-info/undergrad/it</a> |

***The placement and offering of units may be rearranged or revised based on school resources or faculty planning.***

***If you opt for an overseas exchange program, you may need to either overload a semester, undertake a summer unit or extend an additional semester in order to complete your course. Please consult the course coordinator.***