## BACHELOR OF COMPUTER SCIENCE (C2001) – 2021
### Data Science Specialisation

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

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|---|---|---|---|---|
| **July/Oct Semester** | **FIT1045** Algorithms and programming fundamentals in python | **FIT1047** Introduction to computer systems, networks and security | **MAT1830** Discrete mathematics for computer science | **Elective** |
| **February Semester** | **FIT1008** Introduction to computer science [FIT1045] | **FIT1043** Introduction to data science [Completion of Year 12 Maths] | **MAT1841** Continuous mathematics for computer science | **FIT1055** IT professional practice and ethics [12 pts FIT study] |

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

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|---|---|---|---|---|
| **July Semester** | **FIT2014** Theory of computation [FIT1045 & MAT1830] | **FIT2086** Modelling for data science [FIT1045 & MAT1830 & one of MAT1841, MAT2003, MTH1030 or MTH1035] | **Elective** | **Elective** |
| **February Semester** | **FIT2004** Algorithms and data structures [FIT1008 & 6 pts L1 Maths] | **FIT2094** Databases [One of FIT1045, FIT1048 or FIT1051] | **Elective** | **Elective** |

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

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| **July Semester** | **FIT3163** Data science project 1 [FIT1043, FIT1055, FIT2004, FIT2086, FIT2094] | Level 3 Data Science Approved Elective* | **FIT3179** Data visualization [24pts level 1 study] | **Elective** |
| **Summer Semester** | **FIT3199** Industry work experience (0 credit points) [Completed a minimum of 96 credit points including FIT1055] | | | |
| **February Semester** | **FIT3164** Data science project 2 [FIT3163] | Level 3 Data Science Approved Elective* | Level 3 | **Elective** |

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**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. Note that the FIT3081, FIT3134 & FIT3183 units are currently offered at the Malaysia campus. In addition to the minimum two level 3 data science approved electives, you can utilize the elective slots in the course map to enrol for additional level 3 data 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.

**Level 1 Elective**
FIT1051 Programming fundamentals in JAVA

**Level 2 Electives**

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|---|---|
| FIT2081 Mobile application development | FIT2101 Software engineering process & management |
| FIT2093 Introduction to cybersecurity | FIT2102 Programming paradigms |
| FIT2099 Object oriented design and implementation | FIT2107 Software quality and testing |
| FIT2100 Operating systems | |

***Level 3 Data Science Approved Electives**

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|---|---|
| FIT3003 Business intelligence and data warehousing | FIT3182 Big data management and processing |
| FIT3152 Data analytics | FIT3183 Malicious AI & dark side security |
| FIT3181 Deep learning | |

**Level 3 Electives**

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|---|---|
| FIT3077 Software engineering: architecture & design | FIT3143 Parallel computing |
| FIT3080 Artificial intelligence | FIT3159 Computer architecture |
| FIT3081 Image processing | FIT3155 Advanced data structures and algorithms |
| FIT3134 Entrepreneurship | FIT3175 Usability |

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**Additional Notes**

| | |
|---|---|
| **Credit points** | Unless specified, all units are worth 6 credit points<br>Bachelor of Computer Science in Data Science 24 units x 6 credit points = Total of 144 credit points |
| **Year Level Requirements** | 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. |
| **Unit requisites** | All pre-requisite and co- requisite requirements must be undertaken to be able to enrol into a specific unit. |
| **Duration of degree** | 3 years full-time, 6 years part-time |
| **Course duration** | You have a maximum of 8 years to complete this course including any periods of intermission and suspension and must be continuously enrolled throughout. |
| **Monash University handbook** | Students should follow the course requirements for the year the course was commenced<br>https://www.monash.edu/students/handbooks/faculty-info/undergrad/it |