# Bachelor of Computer Science (C2001) – 2024
# Data science specialisation

**Year 1 (48 credit points)**

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| **First Semester** | **FIT1045** Introduction to programming | **FIT1047** Introduction to computer systems, networks and security | **MAT1830** Discrete mathematics for computer science | **Elective** |
| **Second Semester** | **FIT1008** Fundamentals of algorithms [FIT1045] | **FIT1043** Introduction to data science | **MAT1841** Continuous mathematics for computer science | **Elective** |

**Year 2 (48 credit points)**

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| **First Semester** | **FIT2004** Algorithms and data structures [FIT1008 & 6 pts L1 Maths] | **FIT2094** Databases FIT1045 | **Elective** | **Elective** |
| **Second Semester** | **FIT2014** Theory of computation [FIT1008 & MAT1830] | **FIT1049** IT professional practice [12 pts FIT study] OR **FIT1055** IT professional practices and ethics | **FIT2086** Modelling for data science [FIT1045 & MAT1830 & one of MAT1841, MAT2003, MTH1030 or MTH1035] | **Elective** |

**Year 3 (48 credit points)**

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| **First Semester** | **FIT3163*** Data science project 1 [FIT1043, FIT1049, FIT2004, FIT2094, co-req: FIT2086] | **FIT3152** Data analytics [FIT2094 and FIT2086] | **Level 3*** Data Science Approved Elective** | **Elective** |
| **Second Semester** | **FIT3164*** Data science project 2 [FIT3163] | **FIT3179** Data visualisation [One of FIT1045 or FIT1008 or and 24 pts of level 2/3 FIT study] | **Elective** | **Elective** |

**Approved Data Science Electives (choose 1)

FIT3003 Business intelligence and data warehousing
FIT3154 Advanced data analysis
FIT3181 Deep learning
FIT3182 Big data management and processing
FIT3183 Malicious AI and dark side security

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

* Industry Based Learning (IBL)

- Students accepted into the IBL program will replace FIT3163, FIT3164 and the Level 3 Data Science Approved Elective with FIT3045 Industry based learning (18 points).
- IBL placements will normally be completed in semester 1 of third year for BCS Data 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

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| **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 in order to be able to enrol into a specific unit |
| **Duration of degree** | 3 years full-time, 6 years part-time |
| **Time limit** | 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. |
| **Monash University handbook** | Students should follow the course requirements for the year the course was commenced<br>https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology |