

# BACHELOR OF COMPUTER SCIENCE IN DATA SCIENCE (C2001) – 2023

(Specialisation: Data Science)

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

February Semester	<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>FIT1043</b> Introduction to data science [Completion of Year 12 Maths]
July Semester	<b>FIT1008</b> Introduction to computer science [FIT1045]	<b>FIT1055</b> IT professional practice and ethics [12 pts FIT study]	<b>MAT1841</b> Continuous mathematics for computer science	<b>Elective</b>

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

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

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

February Semester	<b>FIT3045</b> Industry-based learning (18 points) FIT3045 is equivalent to ONE Level 3 Data Science Approved Electives (6 points) + TWO Level 3 Electives (12 points)			
July Semester	<b>FIT3163</b> Data science project 1 [FIT1043, FIT1055, FIT2004, FIT2094, co-req:FIT2086]	<b>FIT3179</b> Data visualization [24pts level 1 study]	<b>Level 3</b> Data Science Approved Elective*	<b>Elective</b>
Summer Semester	<b>FIT3164</b> Data science project 2 [FIT3163]			

### 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  
FIT1056 Collaborative engineering for web applications

#### Level 2 Electives

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

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

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

<b>Credit points</b>	Unless specified, all units are worth 6 credit points Bachelor of Computer Science in Data 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 to be able to enrol into a specific unit.
<b>Duration of degree</b>	3 years full-time, 6 years part-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 <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 the IBL and the semester placement of FIT3045 differs from the above, and/or 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.***