

Bachelor of Computer Science – 2025

Double degrees with Commerce and Science (B2008, L3011, S2004)

Algorithms and software specialisation

Year 1 (48 credit points)

First Semester	FIT1058 Foundations of computing Replace with: MAT1830 Discrete mathematics for computer science	FIT1047 Introduction to computer systems, networks and security	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT1045 Introduction to programming	FIT1049 IT professional practice	Commerce/Science unit	Commerce/Science unit

Year 2 (48 credit points)

First Semester	FIT1008 Fundamentals of algorithms Replace with: FIT2115 Data structures and algorithms 1	FIT2094 Databases	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT2004 Algorithms and data structures Replace with: FIT3234 Data structures and algorithms 2	FIT2102 Programming paradigms	Commerce/Science unit	Commerce/Science unit

Year 3 (48 credit points)

First Semester	FIT2014 Theory of computation	FIT2099 Object-oriented design and implementation	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT2109 Computer science workshop	Level 3 * Algorithms and software Approved Elective**	Commerce/Science unit	Commerce/Science unit

Year 4 (48 credit points)

First Semester	FIT3161 * Computer science project 1 Replace with: FIT3230 Computer science in practice: project 1	FIT3155 Advanced data structures and algorithms	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT3162 * Computer science project 2 Replace with (from S2 2027): FIT3231 Computer science in practice: project 2	FIT3143 Parallel computing	Commerce/Science unit	Commerce/Science unit

** Approved Computer Science Electives (choose 1)

FIT3080 Artificial intelligence	FIT3159 Computer architecture
FIT3139 Computational modelling and simulation	MTH3170 Network mathematics
FIT3146 Maker lab	MTH3175 Network mathematics (Advanced)

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 Algorithms and software Approved Elective with FIT3045 Industry based learning (18 points).
- IBL placements will normally be completed in semester 1 of third year for BCS Algorithms and software students.
- Students completing an IBL placement must overload in one semester OR complete a summer unit to complete the course in 4 years.

Bachelor of Computer Science – 2025

Double degrees with Commerce and Science (B2008, S2004)

Cybersecurity specialisation

Year 1 (48 credit points)

First Semester	FIT1045 Introduction to programming	FIT1047 Introduction to computer systems, networks and security	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT1058 Foundations of computing Replace with: MAT1830 Discrete mathematics for computer science	FIT1093 Cybersecurity tools and techniques	Commerce/Science unit	Commerce/Science unit

Year 2 (48 credit points)

First Semester	FIT1008 Fundamentals of algorithms Replace with: FIT2115 Data structures and algorithms 1	FIT1057 Introduction to cybersecurity	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT2004 Algorithms and data structures Replace with: FIT3234 Data structures and algorithms 2	FIT1049 IT professional practice	Commerce/Science unit	Commerce/Science unit

Year 3 (48 credit points)

First Semester	FIT2094 Databases	FIT2173 Software security	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT2014 Theory of computation	Level 3 * Cybersecurity Approved Elective**	Commerce/Science unit	Commerce/Science unit

Year 4 (48 credit points)

First Semester	FIT3188* Cybersecurity project 1 Replace with: FIT3230 Computer science in practice: project 1	FIT3185 Privacy enhancing technologies	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT3189 * Cybersecurity project 2 Replace with (from S2 2027): FIT3231 Computer science in practice: project 2	FIT3186 Vulnerability analysis, response and mitigation	Commerce/Science unit	Commerce/Science unit

**Approved Cybersecurity Electives (choose 1)

FIT3031 Network security [FIT2165]
FIT3168 IT forensics [FIT1057 and FIT2173]
FIT3184 Cloud computing [FIT1045]

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 completing the Cybersecurity specialisation will replace FIT3188 and FIT3189 and the Level 3 Cybersecurity Approved Elective with FIT3045 Industry based learning (18 points).
- IBL placements will normally be completed in semester 2 of third year or semester 1 of fourth year.
- Students completing an IBL placement must overload in one semester OR complete a summer unit to complete the course in 4 years.

Bachelor of Computer Science – 2025

Double degrees with Commerce and Science (B2008, S2004)

Data science and AI specialisation

Year 1 (48 credit points)

First Semester	FIT1045 Introduction to programming	FIT1058 Foundations of computing Replace with: MAT1830 Discrete mathematics for computer science	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT1008 Fundamentals of algorithms Replace with: FIT2115 Data structures and algorithms 1	FIT1043 Introduction to data science and AI Replace with: FIT2132 Reasoning with data	Commerce/Science unit	Commerce/Science unit

Year 2 (48 credit points)

First Semester	FIT2004 Algorithms and data structures Replace with: FIT3234 Data structures and algorithms 2	FIT1049 IT professional practice	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT1047 Introduction to computer systems, networks and security	FIT2086 Modelling for data analysis	Commerce/Science unit	Commerce/Science unit

Year 3 (48 credit points)

First Semester	FIT2094 Databases	FIT2179 Data visualisation	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT2014 Theory of computation	Level 3* Data Science Approved Elective**	Commerce/Science unit	Commerce/Science unit

Year 4 (48 credit points)

First Semester	FIT3163 * Data science and AI project 1 Replace with: FIT3230 Computer science in practice: project 1	FIT3152 Data analytics	Commerce/Science unit	Commerce/Science unit
Second Semester	FIT3164 * Data science and AI project 2 Replace with (from S2 2027): FIT3231 Computer science in practice: project 2	FIT3080 Artificial intelligence	Commerce/Science unit	Commerce/Science unit

**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 completing the Data science and AI specialisation will replace FIT3163 and FIT3164 and the Level 3 Data Science Approved Elective with FIT3045 Industry based learning (18 points).
- IBL placements will normally be completed in semester 2 of third year or semester 1 of fourth year.
- Students completing an IBL placement must overload in one semester OR complete a summer unit in order to complete the course in 4 years.

Notes

Credit points	Unless specified, all units are worth 6 credit points Bachelor of Commerce/Science and Bachelor of Computer Science: 32 units x 6cp = Total of 192 credit points
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	4 years full-time, 8 years part-time
Time limit	Time limit: 10 years. Students have ten years in which to complete this award from the time they commence first year. Periods of intermission are counted as part of the ten years.
Monash University handbook	Students should follow the course requirements for the year the course was commenced https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology