

# 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	<b>FIT1058</b> Foundations of computing	<b>FIT1047</b> Introduction to computer systems, networks and security	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT1045</b> Introduction to programming	<b>FIT1049</b> IT professional practice	Commerce/Science unit	Commerce/Science unit

#### Year 2 (48 credit points)

First Semester	<b>FIT1008</b> Fundamentals of algorithms	<b>FIT2094</b> Databases	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT2004</b> Algorithms and data structures	<b>FIT2102</b> Programming paradigms	Commerce/Science unit	Commerce/Science unit

#### Year 3 (48 credit points)

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

#### Year 4 (48 credit points)

First Semester	<b>FIT3161 *</b> Computer science project 1	<b>FIT3155</b> Advanced data structures and algorithms	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT3162 *</b> Computer science project 2	<b>FIT3143</b> 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 in order 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	<b>FIT1045</b> Introduction to programming	<b>FIT1047</b> Introduction to computer systems, networks and security	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT1058</b> Foundations of computing	<b>FIT1093</b> Cybersecurity tools and techniques	Commerce/Science unit	Commerce/Science unit

#### Year 2 (48 credit points)

First Semester	<b>FIT1008</b> Fundamentals of algorithms	<b>FIT1057</b> Introduction to cybersecurity	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT2004</b> Algorithms and data structures	<b>FIT1049</b> IT professional practice	Commerce/Science unit	Commerce/Science unit

#### Year 3 (48 credit points)

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

#### Year 4 (48 credit points)

First Semester	<b>FIT3188*</b> Cybersecurity project 1	<b>FIT3185</b> Privacy enhancing technologies	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT3189 *</b> Cybersecurity project 2	<b>FIT3186</b> Vulnerability analysis, response and mitigation	Commerce/Science unit	Commerce/Science unit

#### \* 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 in order to complete the course in 4 years.

#### \*\*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.

# 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	<b>FIT1045</b> Introduction to programming	<b>FIT1058</b> Foundations of computing	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT1008</b> Fundamentals of algorithms	<b>FIT1043</b> Introduction to data science and AI	Commerce/Science unit	Commerce/Science unit

#### Year 2 (48 credit points)

First Semester	<b>FIT2004</b> Algorithms and data structures	<b>FIT1049</b> IT professional practice	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT1047</b> Introduction to computer systems, networks and security	<b>FIT2086</b> Modelling for data analysis	Commerce/Science unit	Commerce/Science unit

#### Year 3 (48 credit points)

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

#### Year 4 (48 credit points)

First Semester	<b>FIT3163 *</b> Data science and AI project 1	<b>FIT3152</b> Data analytics	Commerce/Science unit	Commerce/Science unit
Second Semester	<b>FIT3164 *</b> Data science and AI project 2	<b>FIT3080</b> Artificial intelligence	Commerce/Science unit	Commerce/Science unit

#### \*\*Approved Data Science Electives (choose 1)

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

**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

<b>Credit points</b>	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
<b>Unit requisites</b>	All pre-requisite and co-requisite requirements must be undertaken in order to be able to enrol into a specific unit
<b>Duration of degree</b>	4 years full-time, 8 years part-time
<b>Time limit</b>	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.
<b>Monash University handbook</b>	Students should follow the course requirements for the year the course was commenced <a href="https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology">https://handbook.monash.edu/browse/By%20Faculty/FacultyofInformationTechnology</a>