

# Bachelor of Computer Science Advanced (Honours) (C3001) – 2025

## Data science and AI specialisation

### Year 1 (48 credit points)

First Semester	<b>FIT1053</b> Introduction to programming (advanced)	<b>FIT1047</b> Introduction to computer systems, networks and security	<b>FIT1058</b> Foundations of computing	Elective
Second Semester	<b>FIT1054</b> Fundamentals of algorithms (advanced)	<b>FIT1049</b> IT professional practice	<b>FIT1043</b> Introduction to data science and AI	Elective

### Year 2 (48 credit points)

First Semester	<b>FIT2004</b> Algorithms and data structures	<b>FIT2083</b> Innovation and research in computer science	<b>FIT2094</b> Databases	<b>FIT2179</b> Data visualisation
Second Semester	<b>FIT2014</b> Theory of computation	<b>FIT2082</b> Computer science research project	<b>FIT2086</b> Modelling for data science	Elective

### Year 3 (48 credit points)

First Semester	<b>FIT3163*</b> Data science and AI project 1	<b>FIT3152</b> Data analytics	<b>Level 3</b> Data science and AI approved elective*	Elective
Second Semester	<b>FIT3164*</b> Data science and AI project 2	<b>FIT3080</b> Artificial intelligence	Elective	Elective

### Year 4 (48 credit points)

First Semester	<b>FIT4441</b> Honours thesis – part 1	<b>FIT4442</b> Honours thesis – part 2	<b>Level 4/5</b> Computer science approved elective	Elective
Second Semester	<b>FIT4443</b> Honours thesis – part 3	<b>FIT4444</b> Honours thesis – final	<b>Level 4/5</b> Computer science approved elective	Elective

#### \* Level 3 Data Science approved 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 and AI Approved Elective with FIT3045 Industry based learning (18 points).
- IBL placements will normally be completed in semester 1 of third year for BCS Advanced Honours 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

<b>Credit points</b>	Unless specified, all units are worth 6 credit points Bachelor of Computer Science Advanced (Honours) 32 units x 6 credit points = Total of 192 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 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.