

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

Data science and AI specialisation

Year 1 (48 credit point)

First Semester	FIT1053 Introduction to programming (advanced) Replace with: FIT1045 Software development 1: programming foundations	FIT1047 Introduction to computer systems, networks and security	FIT1058 Foundations of computing Replace with: MAT1830 Discrete mathematics for computer science	Elective
Second Semester	FIT1054 Fundamentals of algorithms (advanced) Replace with: FIT2115 Data structures and algorithms 1	FIT1049 IT professional practice	FIT1043 Introduction to data science and AI Replace with: FIT2132 Reasoning with data	Elective

Year 2 (48 credit points)

First Semester	FIT2004 Algorithms and data structures Replace with: FIT3234 Data structures and algorithms 2	FIT2083 Innovation and research in computer science	FIT2094 Databases	FIT2179 Data visualisation
Second Semester	FIT2014 Theory of computation	FIT2082 Computer science research project	FIT2086 Modelling for data science	Elective

Year 3 (48 credit points)

First Semester	FIT3163* Data science and AI project 1 Replace with: FIT3230 Computer science in practice: project 1	FIT3152 Data analytics	Level 3 Data science and AI approved elective*	Elective
Second Semester	FIT3164* Data science and AI project 2 Replace with (from S2 2027): FIT3231 Computer science in practice: project 2	FIT3080 Artificial intelligence	Elective	Elective

Year 4 (48 credit points)

First Semester	FIT4441 Honours thesis – part 1	FIT4442 Honours thesis – part 2	Level 4/5 Computer science approved elective	Elective
Second Semester	FIT4443 Honours thesis – part 3	FIT4444 Honours thesis – final	Level 4/5 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 to complete the course in 3 years.

Notes

Credit points	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
Year Level Requirements	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.
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.