Bachelor of Computer Science Advanced (Honours) (C3001) – 2023 Data science specialisation

Vear	1	142	credit	points
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First	FIT1053	FIT1047	MAT1830	Elective
Semester	Introduction to programming (advanced)	Introduction to computer systems, networks and security	Discrete mathematics for computer science	
Second	FIT1054	FIT1049	MAT1841	FIT1043
Semester	Computer science (advanced)	IT professional practice	Continuous mathematics for	Introduction to data science
	[FIT1053]	[12 points FIT units]	computer science	

Year 2 (48 credit points)

First	FIT2004	FIT2083	FIT2094	Elective
Semester	Algorithms and data	Innovation and	Databases	
	structures	research in computer		
	[FIT1008 or FIT1054 & 6 pts	science	[One of FIT1045, FIT1048,	
	L1 Maths]]	[MAT1841 or MTH1030]	FIT1051, ENG1003]	
Second	FIT2014	FIT2086	FIT2082	Elective
Semester	Theory of computation	Modelling for data	Computer science	
		science	research project	
	[FIT1045 or FIT1053 and	[FIT1045 & MAT1830 & one	[FIT2083]	
	MAT1830]	of MAT1841, MAT2003,		
		MTH1030 or MTH1035]		

Year 3 (48 credit points)

First		Level 3	Elective	Elective
Semester	FIT3144	Data science approved		
	Advanced computer	elective*		
Second	science project	Level 3	FIT3179	Elective
Semester	(12 points)	Data science approved	Data visualisation	
	[FIT2004 & FIT2083]	elective*	[FIT2004]	

Year 4 (48 credit points)

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

* Level 3 data science approved electives (choose 2)

FIT3003 Business intelligence and data warehousing

FIT3139 Computational modelling and simulation

FIT3152 Data analytics

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

Bachelor of Computer Science Advanced (Honours) (C3001) – 2023

Data science specialisation

Industry Based Learning placement

Year :	1 (48	3 credit	points)
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First	FIT1053	FIT1047	MAT1830	Elective
Semester	Introduction to programming (advanced)	Introduction to computer systems, networks and security	Discrete mathematics for computer science	
Second	FIT1054	FIT1049	MAT1841	FIT1043
Semester	Computer science	IT professional practice	Continuous	Introduction to data
	(advanced)		mathematics for	science
	[FIT1053]	[12 points FIT units]	computer science	

Year 2 (54 credit points)

Summer Semester	Elective			
First Semester	FIT2004 Algorithms and data structures [FIT1008 or FIT1054 & 6 pts L1 Maths]]	FIT2083 Innovation and research in computer science [MAT1841 or MTH1030]	FIT2094 Databases [One of FIT1045, FIT1048, FIT1051, ENG1003]	Elective
Second Semester	FIT2014 Theory of computation [FIT1045 or FIT1053 and MAT1830]	FIT2086 Modelling for data science [FIT1045 & MAT1830 & one of MAT1841, MAT2003, MTH1030 or MTH1035]	FIT2082 Computer science research project [FIT2083]	Elective

Year 3 (42 credit points)

First Semester	FIT3045 Industry-based I	earning (18 points)		
Second Semester	Level 3 Data science approved elective*	FIT3179 Data visualisation [FIT2004]	Elective	Elective

Year 4 (48 credit points)

First Semester	FIT4441 Honours thesis – part 1	FIT4442 Honours thesis – part 2	Level 4/5 Computer science	Elective
Cassad	FIT4442	FITAAAA	approved elective	Flanking
Second	FIT4443	FIT4444	Level 4/5	Elective
Semester	Honours thesis – part 3	Honours thesis – final	Computer science	
	l .		approved elective	

* Level 3 data science approved electives (choose 1)

FIT3003 Business intelligence and data warehousing

FIT3139 Computational modelling and simulation

FIT3152 Data analytics

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

Notes

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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.