Bachelor of Computer Science Advanced (Honours) (C3001) – 2024
Advanced computer science specialisation

Year 1 (48 credit points)

First Semester	**FIT1053** Introduction to programming (advanced)	**FIT1047** Introduction to computer systems, networks and security	**MAT1830** Discrete mathematics for computer science	**Elective**
Second Semester	**FIT1054** Fundamentals of algorithms (advanced) [FIT1053]	**FIT1049** IT professional practice [12 points FIT units]	**MAT1841** Continuous mathematics for computer science	**Elective**

Year 2 (48 credit points)

First Semester	**FIT2004** Algorithms and data structures [FIT1008 or FIT1054 & 6 pts L1 Maths]	**FIT2083** Innovation and research in computer science [MAT1841 or MTH1030]	**FIT2099** Object oriented design and implementation [One of FIT1045, FIT1053, FIT1008 or FIT1054]	**Elective**
Second Semester	**FIT2014** Theory of computation [FIT1008 or FIT1054 and MAT1830]	**FIT2102** Programming paradigms [FIT1008 or FIT1054]	**FIT2082** Computer science research project [FIT2083]	**Elective**

Year 3 (48 credit points)

First Semester	**FIT3144** Advanced computer science project (12 points) [FIT2004 & FIT2083]	**FIT2094** Databases [FIT1045 or FIT1053]	**Level 3** Computer Science Approved Elective*	**Elective**
Second Semester		**FIT3155** Advanced data structures and algorithms [FIT2004]	**FIT3143** Parallel computing [FIT2004]	**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 Computer science approved electives:**

FIT3080 Artificial intelligence
FIT3139 Computational modelling and simulation
FIT3146 Maker lab
FIT3159 Computer architecture
FIT3165 Computer networks
MTH3170 Network mathematics or
MTH3175 Network mathematics (Advanced)

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 FIT3144 and the Level 3 Computer Science 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

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.