



THE UNIVERSITY
of ADELAIDE

Faculty of Engineering, Computer and Mathematical Sciences 2020 Study Plan

Bachelor of Computer Science – All Majors

Semester 2 Start

[Bachelor of Computer Science](#)

[Bachelor of Computer Science \(Advanced\)](#)

[Honours Degree of Bachelor of Computer Science](#)

Bachelor of Computer Science – Semester 2 Start

Year 1			
S2	**MATHS 1011 Mathematics IA or #Level I Elective <input type="checkbox"/>	*ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	COMP SCI 1106 Introduction to Software Engineering <input type="checkbox"/>
S1	**MATHS 1012 Mathematics IB or #Level I Elective <input type="checkbox"/>	COMP SCI 1102 Object Oriented Programming <input type="checkbox"/>	#Level I Elective <input type="checkbox"/>
**MATHS 1004 Mathematics for Data Science or #Level I Elective <input type="checkbox"/>			
Year 2			
S2	COMP SCI 2103 Algorithm Design and Data Structures <input type="checkbox"/>	COMP SCI 2000 Computer Systems <input type="checkbox"/>	#Level II Elective <input type="checkbox"/>
S1	COMP SCI 2201 Algorithm & Data Structure Analysis <input type="checkbox"/>	COMP SCI 2207 Web & Database Computing <input type="checkbox"/>	#Level II Elective <input type="checkbox"/>
#Level I/II/III Elective <input type="checkbox"/>			
Year 3			
Please see the following page for 3 rd Year course selection. The course choice is dependent on the major stream that you choose. Your choice is from the following: Computer Science, Artificial Intelligence, Data Science, Cybersecurity and Distributed Systems and Networking			

NOTES

***Student with prior programming experience** do not need to complete ENG 1002 Programming (Matlab and C) and can replace it with a Level I Elective. If it is replaced, the following courses must be completed in the order, first COMP SCI 1102, then COMP SCI 2103 and then COMP SCI 2201. However, these courses and COMP SCI 2000 may be completed one semester earlier than shown above.

**Maths:

- Students must complete either MATHS 1004 Mathematics for Data Science or MATHS 1012 Mathematics IB, but may not present both towards their degree.
- To enrol in MATHS 1012 Mathematics IB students must first pass MATHS 1011 Mathematics IA, this is presented as a level 1 elective. Entry into MATHS 1011 Mathematics IA requires SACE Stage 2 Specialist Mathematics, or a pass in MATHS 1013 Mathematics IM.

#Electives: Must include Broadening Electives to the value of 9 units that are not from the following subject areas: COMP SCI, MATHS, PURE MTH, APP MATH, STATS.

General Electives: How to choose an elective course in your area of interest? Please refer to the steps via the link: <https://ecms.adelaide.edu.au/study-with-us/student-support/enrolment>

Program Rules: For academic program rules please refer to the following website: <https://calendar.adelaide.edu.au/faculty/ecms>

Information and Enrolment Advice:

Ask ECMS

Email: askecms@adelaide.edu.au

www.ecms.adelaide.edu.au

Year 3 Major List Options

Year 3 – Computer Science				
S2	COMP SCI Level 3 Software Engineering & Project Course <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>
S1	MATHS 3025 Professional Practice III or ENTREP 3901 Tech eChallenge <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>	#Level III Elective <input type="checkbox"/>
Year 3 – Artificial Intelligence				
S2	COMP SCI 3310 Software Engineering & Project (Artificial Intelligence) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	%2COMP SCI 3314 Introduction to Statistical Machine Learning or COMP SCI Level III Elective <input type="checkbox"/>	%2COMP SCI 3316 Evolutionary Computation NOT OFFERED 2020 or COMP SCI Level III Elective <input type="checkbox"/>
S1	MATHS 3025 Professional Practice III or ENTREP 3901 Tech eChallenge <input type="checkbox"/>	COMP SCI 3007 Artificial Intelligence <input type="checkbox"/>	%2COMP SCI 3315 Computer Vision or COMP SCI Level III Elective <input type="checkbox"/>	#Level III Elective <input type="checkbox"/>
Year 3 – Data Science				
S2	COMP SCI 3311 Software Engineering & Project (Data Science) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI 3314 Introduction to Statistical Machine Learning <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>
S1	MATHS 3025 Professional Practice III or ENTREP 3901 Tech eChallenge <input type="checkbox"/>	COMP SCI 3306 Mining Big Data <input type="checkbox"/>	%1COMP SCI 3305 Parallel and Distributed Computing or COMP SCI Level III Elective <input type="checkbox"/>	^%1STATS 3001 Statistical Modelling III or ^%1STATS 3006 Mathematical Statistics III or #Level III Elective <input type="checkbox"/>
Year 3 – Cybersecurity				
S2	COMP SCI 3312 Software Engineering & Project (Cybersecurity) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI 3307 Secure Programming <input type="checkbox"/>	^%1MATHS 3026 Cryptography or #Level III Elective <input type="checkbox"/>
S1	MATHS 3025 Professional Practice III or ENTREP 3901 Tech eChallenge <input type="checkbox"/>	COMP SCI 3308 Cyber Security Fundamentals <input type="checkbox"/>	%1COMP SCI 3001 Computer Networks and Applications or COMP SCI Level III Elective <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>

Year 3 – Distributed Systems and Networking

S2	COMP SCI 3313 Software Engineering & Project (Distributed Systems and Networking) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI 3012 Distributed Systems <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>
S1	MATHS 3025 Professional Practice III or ENTREP 3901 Tech eChallenge <input type="checkbox"/>	COMP SCI 3001 Computer Networks and Applications <input type="checkbox"/>	COMP SCI 3305 Parallel and Distributed Computing or COMP SCI Level III Elective <input type="checkbox"/>	#Level III Elective <input type="checkbox"/>

^To enrol in MATHS 3026, STATS 3001 or STATS 3006 students must first complete MATHS 1012 and then the required Level II pre-requisites.

%1Students must complete at least one of:

- COMP SCI 3305, STATS 3001 and STATS 3006 as part of the **Data Science** major.
- COMP SCI 3001 and MATHS 3026 as part of the **Cybersecurity** major.

%2Students must complete at least two of COMP SCI 3314, COMP SCI 3315 and COMP SCI 3316 as part of the **Artificial Intelligence** major.

Software Engineering and Project Courses Table

Choose ONE of the following LEVEL 3 SOFTWARE ENGINEERING AND PROJECT Courses

S2	COMP SCI 3006 Software Engineering & Project <input type="checkbox"/>	COMP SCI 3310 Software Engineering & Project (Artificial Intelligence) <input type="checkbox"/>	COMP SCI 3311 Software Engineering & Project (Data Science) <input type="checkbox"/>	COMP SCI 3312 Software Engineering & Project (Cybersecurity) <input type="checkbox"/>
	COMP SCI 3313 Software Engineering & Project (Distributed Systems & Networking) <input type="checkbox"/>			

Electives Table

COMPUTER SCIENCE ELECTIVES				
S1	COMP SCI 1010 Puzzle Based Learning <input type="checkbox"/>	COMP SCI 2005 Systems Programming <input type="checkbox"/>	COMP SCI 3001 Computer Networks and Applications <input type="checkbox"/>	COMP SCI 3005 Computer Architecture <input type="checkbox"/>
	COMP SCI 3007 Artificial Intelligence <input type="checkbox"/>	COMP SCI 3305 Parallel and Distributed Computing <input type="checkbox"/>	COMP SCI 3306 Mining Big Data <input type="checkbox"/>	COMP SCI 3308 Cybersecurity Fundamentals <input type="checkbox"/>
	COMP SCI 3315 Computer Vision <input type="checkbox"/>			
WS	COMP SCI 3309 Cybersecurity A Practical Application <input type="checkbox"/>			
S2	COMP SCI 2203 Problem Solving and Software Development <input type="checkbox"/>	COMP SCI 3012 Distributed Systems <input type="checkbox"/>	COMP SCI 3307 Secure Programming <input type="checkbox"/>	COMP SCI 3314 Introduction to Statistical Machine Learning <input type="checkbox"/>

Bachelor of Computer Science (Advanced) – Semester 2 Start

Year 1				
S2	**MATHS 1011 Mathematics IA or **MATHS 1004 Mathematics for Data Science <input type="checkbox"/>	*ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	COMP SCI 1104 Grand Challenges in Computer Science <input type="checkbox"/>	COMP SCI 1106 Introduction to Software Engineering <input type="checkbox"/>
S1	**MATHS 1012 Mathematics IB or #Level I Elective <input type="checkbox"/>	COMP SCI 1102 Object Oriented Programming <input type="checkbox"/>	#Level I Elective <input type="checkbox"/>	#Level I Elective <input type="checkbox"/>
Year 2				
S2	COMP SCI 2103 Algorithm Design and Data Structures <input type="checkbox"/>	COMP SCI 2000 Computer Systems <input type="checkbox"/>	COMP SCI 2008 Topics in Computer Science (6 units) <input type="checkbox"/>	
S1	COMP SCI 2201 Algorithm & Data Structure Analysis <input type="checkbox"/>	COMP SCI 2207 Web & Database Computing <input type="checkbox"/>	MATHS 3025 Professional Practice III or ENTREP 3901 Tech eChallenge <input type="checkbox"/>	#Level I/II/III Elective <input type="checkbox"/>
Year 3				
Please see the following page for 3 rd Year course selection. The course choice is dependent on the major stream that you choose. Your choice is from the following: Computer Science, Artificial Intelligence, Data Sciences, Cybersecurity and Distributed Systems & Networking				

NOTES

***Student with prior programming experience** do not need to complete ENG 1002 Programming (Matlab and C) and can replace it with a Level I Elective. If it is replaced, the following courses must be completed in the order, first COMP SCI 1102, then COMP SCI 2103 and then COMP SCI 2201. However, these courses and COMP SCI 2000 may be completed one semester earlier than shown above.

**Maths:

- Students must complete either MATHS 1004 Mathematics for Data Science or MATHS 1012 Mathematics IB, but may not present both towards their degree.
- To enrol in MATHS 1012 Mathematics IB students must first pass MATHS 1011 Mathematics IA, this is presented as a level 1 elective. Entry into MATHS 1011 Mathematics IA requires SACE Stage 2 Specialist Mathematics, or a pass in MATHS 1013 Mathematics IM.

#Electives: Must include Broadening Electives to the value of 9 units that are not from the following subject areas: COMP SCI, MATHS, PURE MTH, APP MATH, STATS.

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Year 3 Major List Options

Year 3 – Computer Science			
S2	COMP SCI Level 3 Software Engineering & Project Course <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/> #Level I/II/III Elective <input type="checkbox"/>
S1	#Level III Elective <input type="checkbox"/>	COMP SCI Level III Elective <input type="checkbox"/>	COMP SCI 3020 Advanced Topics in Computer Science (6 units) <input type="checkbox"/>
Year 3 – Artificial Intelligence			
S2	COMP SCI 3310 Software Engineering & Project (Artificial Intelligence) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	%2COMP SCI 3314 Introduction to Statistical Machine Learning <input type="checkbox"/> or #Level I/II/III Elective <input type="checkbox"/> %2COMP SCI 3316 Evolutionary Computation NOT OFFERED 2020 or #Level I/II/III Elective <input type="checkbox"/>
S1	%2COMP SCI 3315 Computer Vision <input type="checkbox"/> or #Level I/II/III Elective <input type="checkbox"/>	COMP SCI 3007 Artificial Intelligence <input type="checkbox"/>	COMP SCI 3020 Advanced Topics in Computer Science (6 units) <input type="checkbox"/>
Year 3 – Data Science			
S2	COMP SCI 3311 Software Engineering & Project (Data Science) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI 3314 Introduction to Statistical Machine Learning <input type="checkbox"/> #Level I/II/III Elective <input type="checkbox"/>
S1	COMP SCI 3305 Parallel and Distributed Computing <input type="checkbox"/> or STATS 3001 Statistical Modelling III [^] <input type="checkbox"/> or STATS 3006 Mathematical Statistics III [^] <input type="checkbox"/>	COMP SCI 3306 Mining Big Data <input type="checkbox"/>	COMP SCI 3020 Advanced Topics in Computer Science (6 units) <input type="checkbox"/>
Year 3 – Cybersecurity			
S2	COMP SCI 3312 Software Engineering & Project (Cybersecurity) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI 3307 Secure Programming <input type="checkbox"/> [^] %1MATHS 3026 Cryptography <input type="checkbox"/> or #Level I/II/III Elective <input type="checkbox"/>
S1	%1COMP SCI 3001 Computer Networks and Applications <input type="checkbox"/> or #Level I/II/III Elective <input type="checkbox"/>	COMP SCI 3308 Cybersecurity Fundamentals <input type="checkbox"/>	COMP SCI 3020 Advanced Topics in Computer Science (6 units) <input type="checkbox"/>

Year 3 – Distributed Systems and Networking

S2	COMP SCI 3313 Software Engineering & Project (Distributed Systems and Networking) <input type="checkbox"/>	COMP SCI 3004 Operating Systems <input type="checkbox"/>	COMP SCI 3012 Distributed Systems <input type="checkbox"/>	#Level I/II/III Elective <input type="checkbox"/>
S1	COMP SCI 3305 Parallel and Distributed Computing or #Level III Elective <input type="checkbox"/>	COMP SCI 3001 Computer Networks and Applications <input type="checkbox"/>	COMP SCI 3020 Advanced Topics in Computer Science (6 units) <input type="checkbox"/>	

^To enrol in MATHS 3026, STATS 3001 or STATS 3006 students must first complete MATHS 1012 and then the required Level II pre-requisites.

%1Students must complete at least one of:

- COMP SCI 3305, STATS 3001 and STATS 3006 as part of the Data Science major.
- COMP SCI 3001 and MATHS 3026 as part of the Cybersecurity major.

%2Students must complete at least two of COMP SCI 3314, COMP SCI 3315 and COMP SCI 3316 as part of the Artificial Intelligence major.

Software Engineering and Project Courses Table

Choose ONE of the following LEVEL 3 SOFTWARE ENGINEERING AND PROJECT Courses

S2	COMP SCI 3006 Software Engineering & Project <input type="checkbox"/>	COMP SCI 3310 Software Engineering & Project (Artificial Intelligence) <input type="checkbox"/>	COMP SCI 3311 Software Engineering & Project (Data Science) <input type="checkbox"/>	COMP SCI 3312 Software Engineering & Project (Cybersecurity) <input type="checkbox"/>
	COMP SCI 3313 Software Engineering & Project (Distributed Systems & Networking) <input type="checkbox"/>			

Electives Table

COMPUTER SCIENCE ELECTIVES				
S1	COMP SCI 1010 Puzzle Based Learning <input type="checkbox"/>	COMP SCI 2005 Systems Programming <input type="checkbox"/>	COMP SCI 3001 Computer Networks and Applications <input type="checkbox"/>	COMP SCI 3005 Computer Architecture <input type="checkbox"/>
	COMP SCI 3007 Artificial Intelligence <input type="checkbox"/>	COMP SCI 3305 Parallel and Distributed Computing <input type="checkbox"/>	COMP SCI 3306 Mining Big Data <input type="checkbox"/>	COMP SCI 3308 Cybersecurity Fundamentals <input type="checkbox"/>
	COMP SCI 3315 Computer Vision <input type="checkbox"/>			
WS	COMP SCI 3309 Cybersecurity A Practical Application <input type="checkbox"/>			
S2	COMP SCI 2203 Problem Solving and Software Development <input type="checkbox"/>	COMP SCI 3012 Distributed Systems <input type="checkbox"/>	COMP SCI 3307 Secure Programming <input type="checkbox"/>	COMP SCI 3314 Introduction to Statistical Machine Learning <input type="checkbox"/>

Honours Degree of Bachelor of Computer Science – Semester 2 Start

Year 1			
S2	COMP SCI 4015A Computer Science Honours Research Project Part A (6 units) <input type="checkbox"/>	Computer Science Honours Elective (3 units) (see elective table) <input type="checkbox"/>	Computer Science Honours Elective (3 units) (see elective table) <input type="checkbox"/>
S1	COMP SCI 4015B Computer Science Honours Research Project Part B (6 units) <input type="checkbox"/>	Computer Science Honours Elective (3 units) (see elective table) <input type="checkbox"/>	Computer Science Honours Elective (3 units) (see elective table) <input type="checkbox"/>

Electives Table

COMPUTER SCIENCE ELECTIVES				
S1	COMP SCI 4123 Software Process Improvement - Honours <input type="checkbox"/>	COMP SCI 4192 Distributed Databases & Data Mining – Honours <input type="checkbox"/>	COMP SCI 4807 Advanced Algorithms – Honours <input type="checkbox"/>	COMP SCI 4808 Modelling & Analysis of Complex Systems – Honours <input type="checkbox"/>
S2	COMP SCI 4100 Software Architecture– Honours <input type="checkbox"/>	COMP SCI 4192 Mobile & Wireless Systems – Honours <input type="checkbox"/>	COMP SCI 4195 Evolutionary Computation - Honours <input type="checkbox"/>	COMP SCI 4195 Evolutionary Computation - Honours <input type="checkbox"/>
	COMP SCI 4809 Search Based Software Engineering – Honours <input type="checkbox"/>	COMP SCI 4811 Event Driven Computing - Honours <input type="checkbox"/>	COMP SCI 4812 Secure Software Engineering - Honours <input type="checkbox"/>	COMP SCI 4813 Introduction to Quantum Computing - Honours <input type="checkbox"/>