

**Bachelor of Mathematical and Computer Sciences**

Semester 1 Start

[Bachelor of Mathematical and Computer Sciences](#)

[Honours Degree of Bachelor of Mathematical Sciences - Computer Science Project](#)

[Honours Degree of Bachelor of Mathematical Sciences - Mathematical Sciences Project](#)

## Bachelor of Mathematical and Computer Sciences

Year 1								
S 1	MATHS 1011 Mathematics IA OR Level I Elective *	<input type="checkbox"/>	ENG 1002 Programming (Matlab and C)	<input type="checkbox"/>	Level I Elective **	<input type="checkbox"/>	Level I or II or III Elective *	<input type="checkbox"/>
S 2	MATHS 1004 Mathematics for Data Science or MATHS 1012 Mathematics IB	<input type="checkbox"/>	Level I Elective *	<input type="checkbox"/>	Level I Elective **	<input type="checkbox"/>	Level I or II or III Elective **	<input type="checkbox"/>
Year 2								
S 1	Level II Elective *	<input type="checkbox"/>	Mathematical Sciences or Computer Sciences Level II or III Elective *	<input type="checkbox"/>	Level II Elective **	<input type="checkbox"/>	Level II Elective *	<input type="checkbox"/>
S 2	Level II Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>	Level II Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>	Level II Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>	Level II Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>
Year 3								
S 1	MATHS 3025 Professional Practice III	<input type="checkbox"/>	3 Units of Specified Capstone course from the table below	<input type="checkbox"/>	Level III Elective *	<input type="checkbox"/>	Level III Elective *	<input type="checkbox"/>
S 2	Level III Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>	Level III Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>	Level III Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>	Level III Mathematical Sciences or Computer Sciences Elective *	<input type="checkbox"/>

\*\* **Broadening Electives** to the value of 9 units from subject areas other than the following: APP MTH, COMP SCI, MATHS, PURE MTH and STATS. The course ENG 1002 Programming (Matlab & C) may not be presented as a Broadening Elective.

\* **Electives** may be chosen from courses offered by the School of Mathematical Sciences, School of Computer Sciences or other courses offered by the University of Adelaide. The program rules require students to present at least 36 units of Mathematical and Computer Science Elective of which at least 12 units are at Level III. Students will need to satisfy any specified course eligibility requirements. In particular, students should pay attention to any Incompatibilities, restrictions, pre-requisites or assumed knowledge which is listed on Course Planner.

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>

The following electives do not satisfy the program rules for this program:  
ECON 1008, ECON 1010, ECON 2503 & ECON 2504

# Students who have not passed SACE Stage 2 Specialist Maths are required to enrol in MATHS 1013 Mathematics IM as a prerequisite to enrolling in MATHS 1011 Mathematics IA. Students may manage their enrolment by enrolling in MATHS 1013 in semester I, followed by MATHS 1011, and MATHS 1012 in summer school.

### Majors

See the Academic Programs Rules at this link for the Majors and Double Majors available:  
[https://calendar.adelaide.edu.au/aprcw/2020/bscms\\_bscm%26cs](https://calendar.adelaide.edu.au/aprcw/2020/bscms_bscm%26cs)

### Minors

Minor in Public Health available to the value of 15 units

### Further Information and Enrolment Advice

Faculty of Engineering, Computer and Mathematical Sciences

Email: [askecms@adelaide.edu.au](mailto:askecms@adelaide.edu.au) [www.ecms.adelaide.edu.au](http://www.ecms.adelaide.edu.au)

### Capstone Courses

CHOOSE FROM THE FOLLOWING COURSES			
COMP SCI 3006 Software Engineering and Project <input type="checkbox"/>	COMP SCI 3310 Software Engineering and Project (Artificial Intelligence) <input type="checkbox"/>	COMP SCI 3311 Software Engineering and Project (Data Science) <input type="checkbox"/>	COMP SCI 3312 Software Engineering and Project (Cybersecurity) <input type="checkbox"/>
COMP SCI 3313 Software Engineering and Project (Distributed Systems and Networking)	MATHS 3021 Capstone Project in Mathematical Sciences III		

### Electives Table

CHOOSE FROM THE FOLLOWING APPLIED MATHEMATICS ELECTIVES			
APP MTH 2105 Optimisation and Operations Research II <input type="checkbox"/>	APP MTH 3001 Applied Probability III <input type="checkbox"/>	APP MTH 3002 Fluid Mechanics III <input type="checkbox"/>	APP MTH 3014 Optimisation III <input type="checkbox"/>
APP MTH 3016 Random Processes III <input type="checkbox"/>	APP MTH 3124 Decision Science III <input type="checkbox"/>	APP MTH 3021 Modelling with Ordinary Differential Equations III <input type="checkbox"/>	APP MTH 3022 Optimal Functions and Nanomechanics III <input type="checkbox"/>
APP MTH 3023 Partial Differential Equations and Waves III <input type="checkbox"/>			
CHOOSE FROM THE FOLLOWING MATHEMATICS SCIENCES ELECTIVES			
MATHS 2104 Numerical Methods II <input type="checkbox"/>	MATHS 3012 Financial Modelling: Tools & Techniques III <input type="checkbox"/>		MATHS 1013 Mathematics IM <input type="checkbox"/>
MATHS 2100 Real Analysis II <input type="checkbox"/>	MATHS 2101 Multivariable & Complex Calculus II <input type="checkbox"/>	MATHS 2102 Differential Equations II <input type="checkbox"/>	MATHS 2103 Probability & Statistics II <input type="checkbox"/>
MATHS 3026 Cryptography III <input type="checkbox"/>			
CHOOSE FROM THE FOLLOWING PURE MATHEMATICS ELECTIVES			
PURE MTH 2106 Algebra II <input type="checkbox"/>	PURE MTH 3002 Topology and Analysis III <input type="checkbox"/>	PURE MTH 3022 Geometry of Surfaces III <input type="checkbox"/>	PURE MTH 3007 Groups and Rings III <input type="checkbox"/>
PURE MTH 3009 Integration and Analysis III <input type="checkbox"/>	PURE MTH 3019 Complex Analysis III <input type="checkbox"/>	PURE MTH 3023 Fields and Modules III <input type="checkbox"/>	

**CHOOSE FROM THE FOLLOWING STATISTICS ELECTIVES**

STATS 1005 Statistical Analysis & Modelling I <input type="checkbox"/>	STATS 2107 Statistical Modelling and Inference II <input type="checkbox"/>	STATS 3001 Statistics Modelling III <input type="checkbox"/>	STATS 3005 Time Series III <input type="checkbox"/>
STATS 3006 Mathematical Statistics III <input type="checkbox"/>	STATS 3022 Data Science III <input type="checkbox"/>	STATS 3023 Computational Bayesian Statistics III <input type="checkbox"/>	<input type="checkbox"/>

**CHOOSE FROM THE FOLLOWING COMPUTER SCIENCES ELECTIVES**

COMP SCI 1010 Puzzle Based Learning <input type="checkbox"/>	COMP SCI 1102 Object Oriented Programming <input type="checkbox"/>	COMP SCI 1106 Introduction to Software Engineering <input type="checkbox"/>	COMP SCI 2000 Computer Systems <input type="checkbox"/>
COMP SCI 2005 Systems Programming <input type="checkbox"/>	COMP SCI 2201 Algorithm & Data Structure Analysis <input type="checkbox"/>	COMP SCI 2203 Problem Solving & Software Development <input type="checkbox"/>	COMP SCI 2207 Web & Database Computing <input type="checkbox"/>
COMP SCI 3001 Computer Network & Applications <input type="checkbox"/>	COMP SCI 3004 Operation Systems <input type="checkbox"/>	COMP SCI 3005 Computer Architecture <input type="checkbox"/>	COMP SCI 3006 Software Engineering & Project <input type="checkbox"/>
COMP SCI 3007 Artificial Intelligence <input type="checkbox"/>	COMP SCI 3012 Distributed Systems <input type="checkbox"/>	COMP SCI 3013 Event Driven Computing <input type="checkbox"/>	COMP SCI 3014 Computer Graphics <input type="checkbox"/>
COMP SCI 3305 Parallel and Distributed Computing <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Honours Degree of Bachelor of Mathematical and Computer Sciences – Computer Sciences Project

Year 1						
S 1	COMP SCI 4015A Computer Science Honours Research Project Part A (6 units)	<input type="checkbox"/>	Computer Science Honours Elective	<input type="checkbox"/>	Computer Science Honours Elective	<input type="checkbox"/>
S 2	COMP SCI 4015B Computer Science Honours Research Project Part B (6 units)	<input type="checkbox"/>	Computer Science Honours Elective	<input type="checkbox"/>	Computer Science Honours Elective	<input type="checkbox"/>

### Electives Table

CHOOSE FROM THE FOLLOWING COMPUTER SCIENCES 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 Quantum Computing - Honours	<input type="checkbox"/>

Computer Science major requirements:

A student who chooses a Computer Science project will receive a major in Computer Science.

**Further Information and Enrolment Advice**

Faculty of Engineering, Computer and Mathematical Sciences

Email: [askecms@adelaide.edu.au](mailto:askecms@adelaide.edu.au) [www.ecms.adelaide.edu.au](http://www.ecms.adelaide.edu.au)

Honours Degree of Bachelor of Mathematical and Computer Sciences  
– Mathematical Sciences Project

Year 1					
S 1	MATHS 4005A Honours Project in Mathematical Sciences A <input type="checkbox"/>	MATHS 4005B Honours Project in Mathematical Sciences B <input type="checkbox"/>	Mathematical Sciences Honours Elective <input type="checkbox"/>	Mathematical Sciences Honours Elective <input type="checkbox"/>	
S 2	MATHS 4005C Honours Project in Mathematical Sciences C <input type="checkbox"/>	Mathematical Sciences Honours Elective <input type="checkbox"/>	Mathematical Sciences Honours Elective <input type="checkbox"/>	Mathematical Sciences Honours Elective <input type="checkbox"/>	

Applied Mathematics, Pure Mathematics or Statistics major requirements

In order to acquire a major in Applied Mathematics, Pure Mathematics or Statistics students must complete 9 units of electives in the discipline including 6 units from Group A.

Mathematical Sciences major requirements

A student who chooses a Mathematical Sciences project and does not qualify for a discipline major, will receive a major in Mathematical Sciences.

**Further Information and Enrolment Advice**

Faculty of Engineering, Computer and Mathematical Sciences

Email: [askecms@adelaide.edu.au](mailto:askecms@adelaide.edu.au) [www.ecms.adelaide.edu.au](http://www.ecms.adelaide.edu.au)

## Electives Table

CHOOSE FROM THE FOLLOWING GROUP A ELECTIVES			
APP MTH 4046 Applied Mathematics Topic A - Honours <input type="checkbox"/>	APP MTH 4047 Applied Mathematics Topic B - Honours <input type="checkbox"/>	APP MTH 4048 Applied Mathematics Topic C - Honours <input type="checkbox"/>	APP MTH 4049 Applied Mathematics Topic D - Honours <input type="checkbox"/>
APP MTH 4051 Applied Mathematics Topic E - Honours <input type="checkbox"/>	APP MTH 4052 Applied Mathematics Topic F - Honours <input type="checkbox"/>	PURE MTH 4012 Pure Mathematics Topic B - Honours <input type="checkbox"/>	PURE MTH 4013 Pure Mathematics Topic D - Honours <input type="checkbox"/>
PURE MTH 4038 Pure Mathematics Topic A - Honours <input type="checkbox"/>	PURE MTH 4066 Pure Mathematics Topic E - Honours <input type="checkbox"/>	STATS 4013 Statistics Topic A - Honours <input type="checkbox"/>	STATS 4014 Statistics Topic B - Honours <input type="checkbox"/>
STATS 4008 Statistics Topic D - Hons <input type="checkbox"/>			
CHOOSE FROM THE FOLLOWING GROUP B ELECTIVES			
PURE MTH 4102 Topology and Analysis - Honours <input type="checkbox"/>	APP MTH 4102 Fluid Mechanics - Honours <input type="checkbox"/>	APP MTH 4114 Optimisation - Honours <input type="checkbox"/>	PURE MTH 4107 Groups and Rings - Honours <input type="checkbox"/>
APP MTH 4101 Applied Probability - Honours <input type="checkbox"/>	APP MTH 4121 Modelling with Ordinary Differential Equations - Honours <input type="checkbox"/>	PURE MTH 4119 Complex Analysis - Honours <input type="checkbox"/>	STATS 4101 Statistical Modelling - Honours <input type="checkbox"/>
APP MTH 4116 Random Processes - Honours <input type="checkbox"/>	APP MTH 4124 Decision Science Honours <input type="checkbox"/>	APP MTH 4122 Optimal Functions and Nanomechanics - Honours <input type="checkbox"/>	APP MTH 4123 Partial Differential Equations and Waves - Honours <input type="checkbox"/>
MATHS 4112 Financial Modelling: Tools & Techniques - Honours <input type="checkbox"/>	PURE MTH 4109 Integration and Analysis - Honours <input type="checkbox"/>	PURE MTH 4122 Geometry of Surfaces - Honours <input type="checkbox"/>	PURE MTH 4123 Fields and Modules - Honours <input type="checkbox"/>
STATS 4105 Time Series - Honours <input type="checkbox"/>	STATS 4106 Mathematical Statistics – Honours <input type="checkbox"/>	MATHS 4026 Cryptography – Honours <input type="checkbox"/>	STATS 4023 Computational Bayesian Statistics Honours <input type="checkbox"/>
STATS 4022 Data Science Honours			
CHOOSE FROM THE FOLLOWING GROUP C ELECTIVES			
APP MTH 4110EX AMSI Applied Mathematics Topic A - Honours <input type="checkbox"/>	APP MTH 4111EX AMSI Applied Mathematics Topic B - Honours <input type="checkbox"/>	PURE MTH 4110EX AMSI Pure Mathematics Topic A - Honours <input type="checkbox"/>	PURE MTH 4111EX AMSI Pure Mathematics Topic B - Honours <input type="checkbox"/>
STATS 4110EX AMSI Statistics Topic A - Honours <input type="checkbox"/>	STATS 4111EX AMSI Statistics Topic B - Honours <input type="checkbox"/>		