THE UNIVERSITY of ADELAIDE

Faculty of Engineering, Computer and Mathematical Sciences
2019 Study Plan

Bachelor of Mathematical and Computer Sciences - Semester 2 Start
(All Majors - for students with Specialist Mathematics)

Year 1				
S1				
S2	MATHS 1011 Mathematics IA	ENG 1002 Programming (Matlab and C)	Level I Elective#	Level I or II or III Elective*
Year 2				
S1	MATHS 1012 Mathematics IB	Level I Elective*	Level I Elective*	Level I or II or III Elective*
S2	Level II or III Elective*	Level II or III Elective*	Level II or III Elective*	Level I or II or III Elective*
Year 3				
S1	Level II or III Elective*	Level II or III Elective*	Level II or III Elective*	Level I or II or III Elective*
S2	Capstone Project (see table)	Level III Mathematical or Computer Sciences Elective	Level III Elective*	Level III Elective*
Year 4				
S1	Level III Mathematical or Computer Sciences Elective	Level III Mathematical or Computer Sciences Elective	MATHS 3025 Professional Practice III	Level III Elective*

*Please note the following:

- Students must present at least 36 units of Mathematical and Computer Science courses:
  - 12 units from: MATHS 1011, MATHS 1012, ENG 1002 & Capstone Project.
  - 9 units from: Level III Mathematical or Computer Science Electives.
  - 15 units from: Level I/II/III Mathematical or Computer Science Electives.
  - MATHS 3025 is not considered a Mathematical Sciences course for this purpose.
- Electives must include Broadening Electives to the value of 9 units that are not from the following: all COMP SCI, MATHS, PURE MTH, APP MATH & STATS courses, and ENG 1002.
- The following electives do not satisfy the program rules for this program: MATHS 1009, MATHS 1010, ECON 1008, ECON 1010, ECON 2503 & ECON 2504.

#Students wishing to take statistics courses at Level II/III should take a Level I Statistics course. STATS 1005 Statistical Analysis and Modelling I is strongly recommended.

Majors

Students may select to complete one of the following majors (see https://calendar.adelaide.edu.au/aprcw/2019/bscms_bscm%26cs for specific requirements):

- Applied Mathematics^
- Artificial Intelligence
- Computer Science
- Cybersecurity
- Data and Decision Sciences
- Distributed Systems and Networking
- Data Science
- Mathematics
- Pure Mathematics^
- Statistics^

^ Two of these majors can be chosen to present a double major

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

Further Information and Enrolment Advice

Faculty of Engineering, Computer and Mathematical Sciences
Email: askecms@adelaide.edu.au Web: www.ecms.adelaide.edu.au

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Capstone Project Table

CHOOSE ONE OF THE FOLLOWING CAPSTONE PROJECT COURSES			
COMP SCI 3006 Software Engineering & Project ☐	COMP SCI 3310 Software Engineering & Project (Artificial Intelligence) ☐	COMP SCI 3311 Software Engineering & Project (Data Science) ☐	COMP SCI 3312 Software Engineering & Project (Cybersecurity) ☐
COMP SCI 3313 Software Engineering & Project (Distributed Systems & Networking) ☐	MATHS 3021 Capstone Project in Mathematical Sciences III ☐		

Electives Tables

CHOOSE FROM THE FOLLOWING APPLIED MATHEMATICS ELECTIVES			
APP MTH 2105 Optimisation and Operations Research II ☐	APP MTH 3001 Applied Probability III ☐	APP MTH 3002 Fluid Mechanics III ☐	APP MTH 3014 Optimisation III ☐
APP MTH 3016 Random Processes III ☐	APP MTH 3020 Stochastic Decision Theory III **(not available post 2019)** ☐	APP MTH 3021 Modelling with Ordinary Differential Equations III ☐	APP MTH 3022 Optimal Functions and Nanomechanics III **(not available post 2019)** ☐
APP MTH 3023 Partial Differential Equations and Waves III ☐	APP MTH 3124 Decision Science III **(available 2021)** ☐		
CHOOSE FROM THE FOLLOWING MATHEMATICS SCIENCES ELECTIVES			
MATHS 2100 Real Analysis II ☐	MATHS 2101 Multivariable & Complex Calculus II ☐	MATHS 2102 Differential Equations II ☐	MATHS 2103 Probability & Statistics II ☐
MATHS 2104 Numerical Methods II ☐	MATHS 3012 Financial Modelling: Tools & Techniques III ☐	MATHS 3026 Cryptography III ☐	
CHOOSE FROM THE FOLLOWING PURE MATHEMATICS ELECTIVES			
PURE MTH 2106 Algebra II ☐	PURE MTH 3002 Topology and Analysis III ☐	PURE MTH 3007 Groups and Rings III ☐	PURE MTH 3009 Integration and Analysis III ☐
PURE MTH 3019 Complex Analysis III ☐	PURE MTH 3023 Fields and Modules III ☐	PURE MTH 3024 Finite Geometry III ☐	

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Electives Tables

CHOOSE FROM THE FOLLOWING STATISTICS ELECTIVES			
One of: • STATS 1000 Statistical Practice I • STATS 1005 Statistical Analysis & Modelling I ☐	STATS 2107 Statistical Modelling and Inference II ☐	STATS 3001 Statistical Modelling III ☐	STATS 3005 Time Series III **(not available post 2019)** ☐
STATS 3006 Mathematical Statistics III ☐	STATS 3022 Data Science III **(available 2020)** ☐	STATS 3023 Computational Bayesian Statistics III **(available 2020)** ☐	

CHOOSE FROM THE FOLLOWING COMPUTER SCIENCES ELECTIVES			
COMP SCI 1010 Puzzle Based Learning ☐	COMP SCI 1106 Introduction to Software Engineering ☐	COMP SCI 2000 Computer Systems ☐	COMP SCI 2005 Systems Programming ☐
COMP SCI 2203 Problem Solving & Software Development ☐	COMP SCI 2207 Web & Database Computing ☐	COMP SCI 3001 Computer Network & Applications ☐	COMP SCI 3004 Operation Systems ☐
COMP SCI 3005 Computer Architecture ☐	COMP SCI 3007 Artificial Intelligence ☐	COMP SCI 3012 Distributed Systems ☐	COMP SCI 3305 Parallel and Distributed Computing ☐
COMP SCI 3306 Mining Big Data ☐	COMP SCI 3307 Secure Programming ☐	COMP SCI 3308 Cybersecurity Fundamentals ☐	COMP SCI 3309 Cybersecurity A Practical Application ☐
COMP SCI 3314 Introduction to Statistical Machine Learning ☐	COMP SCI 3315 Computer Vision ☐	One of: • COMP SCI 3006 Software Engineering & Project • COMP SCI 3310 Software Engineering & Project (Artificial Intelligence) • COMP SCI 3311 Software Engineering & Project (Data Science) • COMP SCI 3312 Software Engineering & Project (Cybersecurity) • COMP SCI 3313 Software Engineering & Project (Distributed Systems & Networking) ☐	