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General Electives

- General 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. *ENG 1002* does not count towards the Broadening electives requirement.
- Electives may be any University of Adelaide Undergraduate course for which the student meets the pre-requisites. Please check the availability, restriction and incompatible section on the course planner for elective choices.
- 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>

Majors

- View individual major requirements in the [Majors](#) section.
- A major to the value of 24 units may be taken in one of the following:
 - Applied Mathematics
 - Pure Mathematics
 - Statistics
- A double major to the value of 24 units may be taken in one of the following:
 - Applied Mathematics and Pure Mathematics
 - Applied Mathematics and Statistics
 - Pure Mathematics and Applied Mathematics
 - Pure Mathematics and Statistics
 - Statistics and Applied Mathematics
 - Statistics and Pure Mathematics
- MATHS 3020 Advanced Mathematical Perspectives III may be presented towards a double major in the discipline of the project.

Courses Not Permitted

The following courses cannot be presented as electives:

- ECON 1008 Data Analytics I
- ECON 1010 Introduction to Mathematical Economics (Advanced) I
- ECON 2503 Intermediate Mathematical Economics II
- ECON 2504 Intermediate Econometrics II

Mathematical Science Internships

- Internships are available to students and allow students to build and apply skills to a relevant workplace setting.
- Students will need to apply for approved internships on [CareerHub](#), and if successful in gaining an internship will be enrolled by the faculty in either *ENG 3700 ECMS Internship* (3 units) or *ENG 3710 ECMS Internship* (6 units).
- Both *ENG 3700 ECMS Internship* and *ENG 3710 ECMS Internship* can be counted as a level III Mathematical Science elective.

Links and Further Information

- [Course Planner](#) Information about University courses, including availability, class times, restrictions and prerequisites.
- [University Calendar](#) All academic program rules.
- **Contact Ask ECMS:** askecms@adelaide.edu.au • +61 8 8313 4148 • www.ecms.adelaide.edu.au

Faculty of Engineering, Computer and Mathematical Sciences
2021 Study Plan – Semester 1 Start
Bachelor of Mathematical Sciences (Advanced)
Study Plan

Course		Units	Status
Year 1			
S1	ENG 1002 Programming (Matlab and C)	3	
S1	MATHS 1011 Mathematics IA	3	
S1	MATHS 1015 Advanced Mathematical Perspectives I	3	
S1	# Level I/II/III General Elective	3	
S2	MATHS 1012 Mathematics IB	3	
S2	STATS 1005 Statistical Analysis and Modelling I	3	
S2	# Level I/II/III General Elective	3	
S2	# Level I/II/III General Elective	3	
Year 2			
S1	MATHS 2101 Multivariable & Complex Calculus II	3	
S1	MATHS 2102 Differential Equations II	3	
S1	MATHS 2103 Probability & Statistics II	3	
S1	# Level I/II/III General Elective	3	
S2	MATHS 2100 Real Analysis II	3	
S2	MATHS 2203 Advanced Mathematical Perspectives II	3	
S2	STATS 2107 Statistical Modelling and Inference II	3	
S2	# Level I/II/III General Elective	3	
Year 3			
S1	MATHS 3025 Professional Practice III	3	
S1	Level III Mathematical Sciences Elective	3	
S1	Level III Mathematical Sciences Elective	3	
S1	Level III Mathematical Sciences Elective	3	
S2	MATHS 3020 Advanced Mathematical Perspectives III	3	
S2	# Level III General Elective	3	
S2	Level III Mathematical Sciences Elective	3	
S2	Level III Mathematical Sciences Elective	3	

Core Course		Elective Course (see Elective Tables)	
CM = Completed	CR = Credit Awarded	EN = Currently Enrolled	ENROL = Add to Enrolments

General Electives: Please refer to [Program Notes](#) page for information on general elective requirements.

Elective Ordering

- Please note that the ordering of electives is an example only, students are free to change the ordering of electives if required.

Links and Further Information

- [Course Planner](#) Information about University courses, including availability, class times, restrictions and prerequisites.
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Faculty of Engineering, Computer and Mathematical Sciences
2021 Study Plan – Semester 1 Start
Bachelor of Mathematical Sciences (Advanced)
Elective Tables

Available	Course	Units	Status
Applied Mathematics Elective Table			
N/A	APP MTH 2105 Optimisation and Operations Research II	3	
N/A	APP MTH 3022 Optimal Functions and Nanomechanics III	3	
N/A	APP MTH 3124 Decision Science III	3	
S1	APP MTH 3001 Applied Probability III	3	
S1	APP MTH 3002 Fluid Mechanics III	3	
S1	APP MTH 3014 Optimisation III	3	
S1	APP MTH 3021 Modelling with Ordinary Differential Equations III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	APP MTH 3023 Partial Differential Equations and Waves III	3	
Mathematical Sciences Elective Table			
S2	MATHS 2104 Numerical Methods II	3	
S2	MATHS 3012 Financial Modelling: Tools & Techniques III	3	
S2	MATHS 3026 Cryptography III	3	
SS S1 S2 T4	ENG 3700 ECMS Internship (see Program Notes)	3	
SS S1 S2	ENG 3710 ECMS Internship (see Program Notes)	6	
Pure Mathematics Elective Table			
N/A	PURE MTH 3003 Number Theory III	3	
N/A	PURE MTH 3009 Integration and Analysis III	3	
N/A	PURE MTH 3018 Coding & Cryptology III	3	
N/A	PURE MTH 3021 Logic & Computability	3	
N/A	PURE MTH 3022 Geometry of Surfaces III	3	
N/A	PURE MTH 3024 Finite Geometry III	3	
S1	PURE MTH 2106 Algebra II	3	
S1	PURE MTH 3002 Topology and Analysis III	3	
S1	PURE MTH 3007 Groups and Rings III	3	
S1	PURE MTH 3019 Complex Analysis III	3	
S2	PURE MTH 3023 Fields and Modules III	3	
Statistics Elective Table			
N/A	STATS 3005 Time Series III	3	
N/A	STATS 3008 Biostatistics III	3	
S1	STATS 3001 Statistical Modelling III	3	
S1	STATS 3006 Mathematical Statistics III	3	
S2	STATS 3022 Data Science III	3	
S2	STATS 3023 Computational Bayesian Statistics III	3	

Applied Mathematics Major

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	APP MTH 3022 Optimal Functions and Nanomechanics III	3	
N/A	APP MTH 3124 Decision Science III	3	
S1	APP MTH 3001 Applied Probability III	3	
S1	APP MTH 3002 Fluid Mechanics III	3	
S1	APP MTH 3014 Optimisation III	3	
S1	APP MTH 3021 Modelling with Ordinary Differential Equations III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	APP MTH 3023 Partial Differential Equations and Waves III	3	
	and Mathematical Sciences courses to the value of 12 units		

Pure Mathematics Major

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	PURE MTH 3003 Number Theory III	3	
N/A	PURE MTH 3009 Integration and Analysis III	3	
N/A	PURE MTH 3018 Coding & Cryptology III	3	
N/A	PURE MTH 3021 Logic & Computability	3	
N/A	PURE MTH 3022 Geometry of Surfaces III	3	
N/A	PURE MTH 3024 Finite Geometry III	3	
S1	PURE MTH 3002 Topology and Analysis III	3	
S1	PURE MTH 3007 Groups and Rings III	3	
S1	PURE MTH 3019 Complex Analysis III	3	
S2	PURE MTH 3023 Fields and Modules III	3	
	and Mathematical Sciences courses to the value of 12 units		

Statistics Major

Available	Course	Units	Status
	All of the following courses must be completed:		
S1	STATS 3001 Statistical Modelling III	3	
S1	STATS 3006 Mathematical Statistics III	3	
	and courses to the value of 6 units from the following:		
N/A	APP MTH 3124 Decision Science III	3	
N/A	STATS 3005 Time Series III	3	
N/A	STATS 3008 Biostatistics III	3	
S1	APP MTH 3001 Applied Probability III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	STATS 3022 Data Science III	3	
S2	STATS 3023 Computational Bayesian Statistics III	3	
	and Mathematical Sciences courses to the value of 12 units		

Applied Mathematics and Pure Mathematics Double Major

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	APP MTH 3022 Optimal Functions and Nanomechanics III	3	
N/A	APP MTH 3124 Decision Science III	3	
S1	APP MTH 3001 Applied Probability III	3	
S1	APP MTH 3002 Fluid Mechanics III	3	
S1	APP MTH 3014 Optimisation III	3	
S1	APP MTH 3021 Modelling with Ordinary Differential Equations III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	APP MTH 3023 Partial Differential Equations and Waves III	3	
	plus courses to the value of 9 units from the following:		
N/A	PURE MTH 3003 Number Theory III	3	
N/A	PURE MTH 3009 Integration and Analysis III	3	
N/A	PURE MTH 3018 Coding & Cryptology III	3	
N/A	PURE MTH 3021 Logic & Computability	3	
N/A	PURE MTH 3022 Geometry of Surfaces III	3	
N/A	PURE MTH 3024 Finite Geometry III	3	
S1	PURE MTH 3002 Topology and Analysis III	3	
S1	PURE MTH 3007 Groups and Rings III	3	
S1	PURE MTH 3019 Complex Analysis III	3	
S2	PURE MTH 3023 Fields and Modules III	3	
	and Mathematical Sciences courses to the value of 3 units		

Applied Mathematics and Statistics Double Major

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	APP MTH 3022 Optimal Functions and Nanomechanics III	3	
N/A	APP MTH 3124 Decision Science III	3	
S1	APP MTH 3001 Applied Probability III	3	
S1	APP MTH 3002 Fluid Mechanics III	3	
S1	APP MTH 3014 Optimisation III	3	
S1	APP MTH 3021 Modelling with Ordinary Differential Equations III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	APP MTH 3023 Partial Differential Equations and Waves III	3	
	plus all of the following courses must be completed:		
S1	STATS 3001 Statistical Modelling III	3	
S1	STATS 3006 Mathematical Statistics III	3	
	and courses to the value of 3 units from the following:		
N/A	APP MTH 3124 Decision Science III	3	
N/A	STATS 3005 Time Series III	3	
N/A	STATS 3008 Biostatistics III	3	
S1	APP MTH 3001 Applied Probability III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	STATS 3022 Data Science III	3	
S2	STATS 3023 Computational Bayesian Statistics III	3	
	and Mathematical Sciences courses to the value of 3 units		

Bachelor of Mathematical Sciences (Advanced)

Pure Mathematics and Applied Mathematics Double Major

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	PURE MTH 3003 Number Theory III	3	
N/A	PURE MTH 3009 Integration and Analysis III	3	
N/A	PURE MTH 3018 Coding & Cryptology III	3	
N/A	PURE MTH 3021 Logic & Computability	3	
N/A	PURE MTH 3022 Geometry of Surfaces III	3	
N/A	PURE MTH 3024 Finite Geometry III	3	
S1	PURE MTH 3002 Topology and Analysis III	3	
S1	PURE MTH 3007 Groups and Rings III	3	
S1	PURE MTH 3019 Complex Analysis III	3	
S2	PURE MTH 3023 Fields and Modules III	3	
	plus courses to the value of 9 units from the following:		
N/A	APP MTH 3022 Optimal Functions and Nanomechanics III	3	
N/A	APP MTH 3124 Decision Science III	3	
S1	APP MTH 3001 Applied Probability III	3	
S1	APP MTH 3002 Fluid Mechanics III	3	
S1	APP MTH 3014 Optimisation III	3	
S1	APP MTH 3021 Modelling with Ordinary Differential Equations III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	APP MTH 3023 Partial Differential Equations and Waves III	3	
	and Mathematical Sciences courses to the value of 3 units		

Pure Mathematics and Statistics Double Major

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	PURE MTH 3003 Number Theory III	3	
N/A	PURE MTH 3009 Integration and Analysis III	3	
N/A	PURE MTH 3018 Coding & Cryptology III	3	
N/A	PURE MTH 3021 Logic & Computability	3	
N/A	PURE MTH 3022 Geometry of Surfaces III	3	
N/A	PURE MTH 3024 Finite Geometry III	3	
S1	PURE MTH 3002 Topology and Analysis III	3	
S1	PURE MTH 3007 Groups and Rings III	3	
S1	PURE MTH 3019 Complex Analysis III	3	
S2	PURE MTH 3023 Fields and Modules III	3	
	plus all of the following courses must be completed:		
S1	STATS 3001 Statistical Modelling III	3	
S1	STATS 3006 Mathematical Statistics III	3	
	and courses to the value of 3 units from the following:		
N/A	APP MTH 3124 Decision Science III	3	
N/A	STATS 3005 Time Series III	3	
N/A	STATS 3008 Biostatistics III	3	
S1	APP MTH 3001 Applied Probability III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	STATS 3022 Data Science III	3	
S2	STATS 3023 Computational Bayesian Statistics III	3	
	and Mathematical Sciences courses to the value of 3 units		

Bachelor of Mathematical Sciences (Advanced)

Statistics and Applied Mathematics Double Major

Available	Course	Units	Status
	All of the following courses must be completed:		
S1	STATS 3001 Statistical Modelling III	3	
S1	STATS 3006 Mathematical Statistics III	3	
	and courses to the value of 6 units from the following:		
N/A	APP MTH 3124 Decision Science III	3	
N/A	STATS 3005 Time Series III	3	
N/A	STATS 3008 Biostatistics III	3	
S1	APP MTH 3001 Applied Probability III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	STATS 3022 Data Science III	3	
S2	STATS 3023 Computational Bayesian Statistics III	3	
	plus courses to the value of 9 units from the following:		
N/A	APP MTH 3022 Optimal Functions and Nanomechanics III	3	
N/A	APP MTH 3124 Decision Science III	3	
S1	APP MTH 3001 Applied Probability III	3	
S1	APP MTH 3002 Fluid Mechanics III	3	
S1	APP MTH 3014 Optimisation III	3	
S1	APP MTH 3021 Modelling with Ordinary Differential Equations III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	APP MTH 3023 Partial Differential Equations and Waves III	3	
	and Mathematical Sciences courses to the value of 3 units		

Statistics and Pure Mathematics Double Major

Available	Course	Units	Status
	All of the following courses must be completed:		
S1	STATS 3001 Statistical Modelling III	3	
S1	STATS 3006 Mathematical Statistics III	3	
	and courses to the value of 6 units from the following:		
N/A	APP MTH 3124 Decision Science III	3	
N/A	STATS 3005 Time Series III	3	
N/A	STATS 3008 Biostatistics III	3	
S1	APP MTH 3001 Applied Probability III	3	
S2	APP MTH 3016 Random Processes III	3	
S2	STATS 3022 Data Science III	3	
S2	STATS 3023 Computational Bayesian Statistics III	3	
	plus courses to the value of 9 units from the following:		
N/A	PURE MTH 3003 Number Theory III	3	
N/A	PURE MTH 3009 Integration and Analysis III	3	
N/A	PURE MTH 3018 Coding & Cryptology III	3	
N/A	PURE MTH 3021 Logic & Computability	3	
N/A	PURE MTH 3022 Geometry of Surfaces III	3	
N/A	PURE MTH 3024 Finite Geometry III	3	
S1	PURE MTH 3002 Topology and Analysis III	3	
S1	PURE MTH 3007 Groups and Rings III	3	
S1	PURE MTH 3019 Complex Analysis III	3	
S2	PURE MTH 3023 Fields and Modules III	3	
	and Mathematical Sciences courses to the value of 3 units		