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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 3021 Capstone Project in Mathematical Sciences 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](mailto:askecms@adelaide.edu.au) • +61 8 8313 4148 • [www.ecms.adelaide.edu.au](http://www.ecms.adelaide.edu.au)

Course		Units	Status
<b>Year 1</b>			
S2	ENG 1002 Programming (Matlab and C)	3	
S2	MATHS 1011 Mathematics IA	3	
S2	STATS 1005 Statistical Analysis and Modelling I	3	
S2	#Level I/II/III General Elective	3	
SUM / S1	%MATHS 1012 Mathematics IB	3	
S1	#Level I/II/III General Elective	3	
S1	#Level I/II/III General Elective	3	
S1	#Level I/II/III General Elective	3	
<b>Year 2</b>			
S2	MATHS 2100 Real Analysis II	3	
S2	STATS 2107 Statistical Modelling and Inference II	3	
S2	#Level I/II/III General Elective	3	
S2	#Level I/II/III General Elective	3	
S1	MATHS 2101 Multivariable & Complex Calculus II	3	
S1	MATHS 2102 Differential Equations II	3	
S1	MATHS 2103 Probability & Statistics II	3	
S1	#Level II/III General Elective	3	
<b>Year 3</b>			
S2	MATHS 3021 Capstone Project in Mathematical Sciences III	3	
S2	#Level III General Elective	3	
S2	Level III Mathematical Sciences Elective	3	
S2	Level III Mathematical Sciences Elective	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	

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.

%**MATHS 1012:** Students are strongly recommended to take MATHS 1012 Mathematics IB during the summer session.

#### 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.
- [University Calendar](#) All academic program rules.
- Contact Ask ECMS:** [askecms@adelaide.edu.au](mailto:askecms@adelaide.edu.au) • +61 8 8313 4148 • [www.ecms.adelaide.edu.au](http://www.ecms.adelaide.edu.au)

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

### Applied Mathematics Major

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	<a href="#">APP MTH 3022 Optimal Functions and Nanomechanics III</a>	3	
N/A	<a href="#">APP MTH 3124 Decision Science III</a>	3	
S1	<a href="#">APP MTH 3001 Applied Probability III</a>	3	
S1	<a href="#">APP MTH 3002 Fluid Mechanics III</a>	3	
S1	<a href="#">APP MTH 3014 Optimisation III</a>	3	
S1	<a href="#">APP MTH 3021 Modelling with Ordinary Differential Equations III</a>	3	
S2	<a href="#">APP MTH 3016 Random Processes III</a>	3	
S2	<a href="#">APP MTH 3023 Partial Differential Equations and Waves III</a>	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	<a href="#">PURE MTH 3003 Number Theory III</a>	3	
N/A	<a href="#">PURE MTH 3009 Integration and Analysis III</a>	3	
N/A	<a href="#">PURE MTH 3018 Coding &amp; Cryptology III</a>	3	
N/A	<a href="#">PURE MTH 3021 Logic &amp; Computability</a>	3	
N/A	<a href="#">PURE MTH 3022 Geometry of Surfaces III</a>	3	
N/A	<a href="#">PURE MTH 3024 Finite Geometry III</a>	3	
S1	<a href="#">PURE MTH 3002 Topology and Analysis III</a>	3	
S1	<a href="#">PURE MTH 3007 Groups and Rings III</a>	3	
S1	<a href="#">PURE MTH 3019 Complex Analysis III</a>	3	
S2	<a href="#">PURE MTH 3023 Fields and Modules III</a>	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	<a href="#">STATS 3001 Statistical Modelling III</a>	3	
S1	<a href="#">STATS 3006 Mathematical Statistics III</a>	3	
	and courses to the value of 6 units from the following:		
N/A	<a href="#">APP MTH 3124 Decision Science III</a>	3	
N/A	<a href="#">STATS 3005 Time Series III</a>	3	
N/A	<a href="#">STATS 3008 Biostatistics III</a>	3	
S1	<a href="#">APP MTH 3001 Applied Probability III</a>	3	
S2	<a href="#">APP MTH 3016 Random Processes III</a>	3	
S2	<a href="#">STATS 3022 Data Science III</a>	3	
S2	<a href="#">STATS 3023 Computational Bayesian Statistics III</a>	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		

**Pure Mathematics and Applied Mathematics Double Major**

Available	Course	Units	Status
	Courses to the value of 12 units from the following:		
N/A	<a href="#">PURE MTH 3003 Number Theory III</a>	3	
N/A	<a href="#">PURE MTH 3009 Integration and Analysis III</a>	3	
N/A	<a href="#">PURE MTH 3018 Coding &amp; Cryptology III</a>	3	
N/A	<a href="#">PURE MTH 3021 Logic &amp; Computability</a>	3	
N/A	<a href="#">PURE MTH 3022 Geometry of Surfaces III</a>	3	
N/A	<a href="#">PURE MTH 3024 Finite Geometry III</a>	3	
S1	<a href="#">PURE MTH 3002 Topology and Analysis III</a>	3	
S1	<a href="#">PURE MTH 3007 Groups and Rings III</a>	3	
S1	<a href="#">PURE MTH 3019 Complex Analysis III</a>	3	
S2	<a href="#">PURE MTH 3023 Fields and Modules III</a>	3	
	plus courses to the value of 9 units from the following:		
N/A	<a href="#">APP MTH 3022 Optimal Functions and Nanomechanics III</a>	3	
N/A	<a href="#">APP MTH 3124 Decision Science III</a>	3	
S1	<a href="#">APP MTH 3001 Applied Probability III</a>	3	
S1	<a href="#">APP MTH 3002 Fluid Mechanics III</a>	3	
S1	<a href="#">APP MTH 3014 Optimisation III</a>	3	
S1	<a href="#">APP MTH 3021 Modelling with Ordinary Differential Equations III</a>	3	
S2	<a href="#">APP MTH 3016 Random Processes III</a>	3	
S2	<a href="#">APP MTH 3023 Partial Differential Equations and Waves III</a>	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	<a href="#">PURE MTH 3003 Number Theory III</a>	3	
N/A	<a href="#">PURE MTH 3009 Integration and Analysis III</a>	3	
N/A	<a href="#">PURE MTH 3018 Coding &amp; Cryptology III</a>	3	
N/A	<a href="#">PURE MTH 3021 Logic &amp; Computability</a>	3	
N/A	<a href="#">PURE MTH 3022 Geometry of Surfaces III</a>	3	
N/A	<a href="#">PURE MTH 3024 Finite Geometry III</a>	3	
S1	<a href="#">PURE MTH 3002 Topology and Analysis III</a>	3	
S1	<a href="#">PURE MTH 3007 Groups and Rings III</a>	3	
S1	<a href="#">PURE MTH 3019 Complex Analysis III</a>	3	
S2	<a href="#">PURE MTH 3023 Fields and Modules III</a>	3	
	plus all of the following courses must be completed:		
S1	<a href="#">STATS 3001 Statistical Modelling III</a>	3	
S1	<a href="#">STATS 3006 Mathematical Statistics III</a>	3	
	and courses to the value of 3 units from the following:		
N/A	<a href="#">APP MTH 3124 Decision Science III</a>	3	
N/A	<a href="#">STATS 3005 Time Series III</a>	3	
N/A	<a href="#">STATS 3008 Biostatistics III</a>	3	
S1	<a href="#">APP MTH 3001 Applied Probability III</a>	3	
S2	<a href="#">APP MTH 3016 Random Processes III</a>	3	
S2	<a href="#">STATS 3022 Data Science III</a>	3	
S2	<a href="#">STATS 3023 Computational Bayesian Statistics III</a>	3	
	and Mathematical Sciences courses to the value of 3 units		

**Statistics and Applied Mathematics Double Major**

Available	Course	Units	Status
	All of the following courses must be completed:		
S1	<a href="#">STATS 3001 Statistical Modelling III</a>	3	
S1	<a href="#">STATS 3006 Mathematical Statistics III</a>	3	
	and courses to the value of 6 units from the following:		
N/A	<a href="#">APP MTH 3124 Decision Science III</a>	3	
N/A	<a href="#">STATS 3005 Time Series III</a>	3	
N/A	<a href="#">STATS 3008 Biostatistics III</a>	3	
S1	<a href="#">APP MTH 3001 Applied Probability III</a>	3	
S2	<a href="#">APP MTH 3016 Random Processes III</a>	3	
S2	<a href="#">STATS 3022 Data Science III</a>	3	
S2	<a href="#">STATS 3023 Computational Bayesian Statistics III</a>	3	
	plus courses to the value of 9 units from the following:		
N/A	<a href="#">APP MTH 3022 Optimal Functions and Nanomechanics III</a>	3	
N/A	<a href="#">APP MTH 3124 Decision Science III</a>	3	
S1	<a href="#">APP MTH 3001 Applied Probability III</a>	3	
S1	<a href="#">APP MTH 3002 Fluid Mechanics III</a>	3	
S1	<a href="#">APP MTH 3014 Optimisation III</a>	3	
S1	<a href="#">APP MTH 3021 Modelling with Ordinary Differential Equations III</a>	3	
S2	<a href="#">APP MTH 3016 Random Processes III</a>	3	
S2	<a href="#">APP MTH 3023 Partial Differential Equations and Waves III</a>	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	<a href="#">STATS 3001 Statistical Modelling III</a>	3	
S1	<a href="#">STATS 3006 Mathematical Statistics III</a>	3	
	and courses to the value of 6 units from the following:		
N/A	<a href="#">APP MTH 3124 Decision Science III</a>	3	
N/A	<a href="#">STATS 3005 Time Series III</a>	3	
N/A	<a href="#">STATS 3008 Biostatistics III</a>	3	
S1	<a href="#">APP MTH 3001 Applied Probability III</a>	3	
S2	<a href="#">APP MTH 3016 Random Processes III</a>	3	
S2	<a href="#">STATS 3022 Data Science III</a>	3	
S2	<a href="#">STATS 3023 Computational Bayesian Statistics III</a>	3	
	plus courses to the value of 9 units from the following:		
N/A	<a href="#">PURE MTH 3003 Number Theory III</a>	3	
N/A	<a href="#">PURE MTH 3009 Integration and Analysis III</a>	3	
N/A	<a href="#">PURE MTH 3018 Coding &amp; Cryptology III</a>	3	
N/A	<a href="#">PURE MTH 3021 Logic &amp; Computability</a>	3	
N/A	<a href="#">PURE MTH 3022 Geometry of Surfaces III</a>	3	
N/A	<a href="#">PURE MTH 3024 Finite Geometry III</a>	3	
S1	<a href="#">PURE MTH 3002 Topology and Analysis III</a>	3	
S1	<a href="#">PURE MTH 3007 Groups and Rings III</a>	3	
S1	<a href="#">PURE MTH 3019 Complex Analysis III</a>	3	
S2	<a href="#">PURE MTH 3023 Fields and Modules III</a>	3	
	and Mathematical Sciences courses to the value of 3 units		