

# Mathematical Sciences Major/Minor Course List for 2019

Bachelor of Arts

Bachelor of Arts (Advanced)

## The Major

24 units of courses including: 6 units at level I; 6 units at level II; and 12 units at level III including the designated capstone course. A minimum of 15 units in the major must be completed before taking the capstone.

The simplest way to plan your major is:

- 6 units at level I
- 6 units at level II
- 12 units at level III including the designated capstone course.

## The Minor

18 units of courses including: a minimum of 3 units and a maximum of 6 units at level I; a minimum of 3 units at level II; and a minimum of 6 units at level III. No capstone is required for the minor. Your minor area must be different to your major.

The simplest way to plan your minor is:

- 6 units at level I
- 6 units at level II
- 6 units at level III.

Level I				
S1 / S2	MATHS	1011	Mathematics IA	3
S1 / S2	MATHS	1012	Mathematics IB	3
S1 / S2	MATHS	1013	Mathematics IM*	3
*Course for students who do not meet the prerequisite for Mathematics IA - not counted towards the major.				
Level II				
S2	APP MTH	2105	Optimisation and Operations Research II	3
S2	MATHS	2100	Real Analysis II	3
S1	MATHS	2101	Multivariable & Complex Calculus II	3
S1	MATHS	2102	Differential Equations II	3
S1	MATHS	2103	Probability & Statistics II	3
S2	MATHS	2104	Numerical Methods II	3
S1	PURE MTH	2106	Algebra II	3
S2	STATS	2107	Statistical Modelling and Inference II	3
Level III				
S1	APP MTH	3001	Applied Probability III	3
S1	APP MTH	3002	Fluid Mechanics III	3
S1	APP MTH	3014	Optimisation III	3
S2	APP MTH	3016	Random Processes III	3
S2	APP MTH	3020	Stochastic Decision Theory III	3
S1	APP MTH	3021	Modelling with Ordinary Differential Equations III	3
S2	APP MTH	3022	Optimal Functions and Nanomechanics III	3
S2	APP MTH	3023	Partial Differential Equations and Waves III	3
S2	MATHS	3012	Financial Modelling: Tools & Techniques III	3
S2	MATHS	3026	Cryptography III	3
S1	PURE MTH	3002	Topology and Analysis III	3
S1	PURE MTH	3007	Groups and Rings III	3
S2	PURE MTH	3009	Integration and Analysis III	3
S1	PURE MTH	3019	Complex Analysis III	3
S2	PURE MTH	3022	Geometry of Surfaces III	3
S2	PURE MTH	3023	Fields and Modules III	3
S1	STATS	3001	Statistical Modelling III	3
S2	STATS	3005	Time Series III	3
S1	STATS	3006	Mathematical Statistics III	3
Capstone (A minimum of 15 units in the major must be completed before taking the capstone)				
S2	MATHS	3021	Capstone Project in Mathematical Sciences III	3

Courses that may be available to study in subsequent years:

Level III			
PURE MTH	3024	Finite Geometry III	3
STATS	3003	Sampling Theory and Practice III	3
STATS	3008	Biostatistics III	3