

MATH1048 Linear Algebra I	7.5	15	Core				
MATH1059 Calculus	7.5	15	Core				
MATH1046 First Year Mathematics Workshop					0	0	Comp
MATH1053 TT Personal Tutor meeting					0	0	Comp
MATH1024 Introduction to Probability and Statistics	7.5	15	Comp	MATH1049 Linear Algebra II	7.5	15	Comp
				MATH1058 Operational Research I and Mathematical Computing	7.5	15	Comp
				MATH1060 Multivariable Calculus	7.5	15	Comp
				ECON1002 Principles of Macroeconomics	7.5	15	Comp
Option Modules: Must take 1 module from the following:							
ECON 1001 Foundations of Microeconomics	7.5	15	Option				
ECON 1003 Principles of Microeconomics	7.5	15	Option				

Part 2

Semester 1				Semester 2			
Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
MATH2011 Statistical Distribution Theory	7.5	15	Comp	ECON2007 Econometrics 2	7.5	15	Comp
MATH2013 Introduction to Operational Research	7.5	15	Comp	MATH2010 Statistical Modelling I	7.5	15	Comp
MATH2039 Analysis	7.5	15	Comp	MATH2038 Partial Differential Equations	7.5	15	Comp
Option Modules							
<p>Select 2 modules (15 ECTS/ 30 CATS) from the following:- Please Note:- Students on this programme must take at least 16 MATH modules over Parts 1, 2 and 3 combined, including at least 4 (30 ECTS/60 CATS) MATH3xxx modules.</p> <p>The number of MATH modules taken in Part 2 will affect the number of MATH modules students must take in Part 3.</p>							
Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
A maximum of 15 credits in any level NQF5 module in subject MATH.	7.5	15	Option	A maximum of 15 credits in any level NQF5 module in subject MATH.	7.5	15	Option
FREEXY15Part 2 Elective	7.5	15	Option	FREEXY15Part 2 Elective	7.5	15	Option
LANGXX15 Language Module	7.5	15	Option	LANGXX15 Language Module	7.5	15	Option
MANG1003 Introduction to Management	7.5	15	Option	ECON2004 Topics in Macroeconomics 2	7.5	15	Option
A maximum of 15 credits in any level NQF5 module in subject UOSM.	7.5	15	Option	MANG2021 Operations Management	7.5	15	Option
				A maximum of 15 credits in any level NQF5 module in subject UOSM.	7.5	15	Option

Part 3

Semester 1				Semester 2			
Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
MATH3092 Mathematics Project					15	30	Comp
				MATH3017 Mathematical Programming	7.5	15	Comp

Please select up to 5 (0 - 75 credits) from the following:-

You may wish to specialise in one of the following areas:-

Group 1. Actuarial & Financial Mathematics

Group 2. Operational Research, Management Sciences & Statistics

Group 3. Mathematics & Statistics

GROUP 1 Actuarial & Financial Modules

Please select 0 up to a maximum of 5 modules (0 – 75 credits) from the following:

Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
ECON3010 Topics in Macroeconomics 3	7.5	15	Option	MATH3022 Mathematical Finance	7.5	15	Option
MATH3063 Actuarial Mathematics I	7.5	15	Option	MATH3066 Actuarial Mathematics II	7.5	15	Option
MATH3085 Survival Models	7.5	15	Option	STAT3010 Statistical Methods in Insurance	7.5	15	Option

GROUP 2 Op Res, Mgt Sci & Stat Modules

Please select 0 up to a maximum of 5 modules (0 - 75 credits) from the following:

Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
MATH3010 Knowledge Management	7.5	15	Option	MANG3034 Project Management	7.5	15	Option
MATH3016 Optimization	7.5	15	Option	MATH3091 Statistical Modelling II	7.5	15	Option
MATH3018 Numerical Methods	7.5	15	Option	MATH3014 Design and Analysis of Experiments	7.5	15	Option
MATH3033 Graph Theory	7.5	15	Option				
MATH3044 Statistical Inference	7.5	15	Option				

GROUP 3 Maths and Statistics Modules

Please select 0 up to a maximum of 5 modules (0 - 75 credits) from the following:

Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
MATH3033 Graph Theory	7.5	15	Option	MATH3006 Relativity, Black Holes and Cosmology	7.5	15	Option
MATH3076 Hilbert Spaces	7.5	15	Option	MATH3052 Mathematical Biology	7.5	15	Option
MATH3083 Advanced Partial Differential Equations	7.5	15	Option	MATH3078 Further Number Theory	7.5	15	Option
MATH3086 Galois Theory	7.5	15	Option	MATH3080 Algebraic Topology	7.5	15	Option
MATH3090 Structure and Dynamics of Networks	7.5	15	Option	MATH3084 Integral Transform Methods	7.5	15	Option
				MATH3088 Complex Analysis	7.5	15	Option

Select up to 3 modules (22.5 ECTS/45 CATS) from the following groups

Select 0 modules up to a maximum of 2-3 module (15 ECTS/30 CATS) from the following:-

Note: you are permitted to only 'backtrack' once to take a Part 2 elective

Please note you cannot take MATH2049 Geometry and Topology if you have previously taken MATH2046.

Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
FREEXY15 Part 2 Elective	7.5	15	Option	MANG 2014 Accounting and Finance for Non-Specialists	7.5	15	Option
7.5 ECTS/15 CATS in any level NQF5 module in subject MATH	7.5	15	Option	FREEXY15 Part 2 Elective	7.5	15	Option
A maximum of 15 credits in any level NQF5 module in subject UOSM	7.5	15	Option	7.5 ECTS/15 CATS in any level NQF5 module in subject MATH	7.5	15	Option

				A maximum of 15 credits in any level NQF5 module in subject UOSM	7.5	15	Option
Select up to 3 modules (22.5 ECTS/45 CATS)							
Select 2 modules (15 ECTS/30 CATS) up to a maximum of 3 modules (22.5 ECTS/45 CATS) from the following:-							
Modules	ECTS	CATS	Module type	Modules	ECTS	CATS	Module Type
FREEXZ15 Part 3 Elective	7.5	15	Option	FREEXZ15 Part 3 Elective	7.5	15	Option
LANGXX15 Language Module	7.5	15	Option	LANGXX15 Language Module	7.5	15	Option
LANGXX30 Language Module	15	30	Option	LANGXX30 Language Module	15	30	Option
7.5 ECTS/15 CATS in any level NQF6 module in subject MATH	7.5	15	Option	MANG3009 International Banking	7.5	15	Option
ECON3010 Topics in Macroeconomics 3	7.5	15	Option	MANG3020 Future and Options	7.5	15	Option
MANG3046 Managing Innovation	7.5	15	Option	MANG3034 Project Management	7.5	15	Option
				STAT3010 Statistical Methods in Insurance	7.5	15	Option
				7.5 ECTS/15 CATS in any level NQF6 module in subject MATH	7.5	15	Option