

Mathematics with Financial Mathematics (4 Years) (MMath)

Year 4 Programme Structure

The 4th year of this programme consists of 30 credits of compulsory Project work (listed below as a mandatory requirement) and must include 90 credits of Level 4 MATH course units which can be taken with Level 3 MATH course units over the final two years, totalling 240credits. Up to 20 credits can be taken from the approved level 3 non-MATH course units.

Note:

- The optional choice of course units over the final two years **MUST** include a minimum of 80 credits from Mathematical Finance course unit modules MATH37001, MATH3/48181, MATH3/48191, MATH47101, MATH47201, MATH47112, MATH3/48032, MATH39032 and MATH49102) or Accounting and Finance Non-MATH course unit modules BMAN21020, BMAN21040, BMAN30211, BMAN30030 or BMAN31040. For the Accounting and Finance course units, the pre-requisites and required performance in them are:
 - For BMAN30030 at least 40% at the first attempt in BMAN21020
 - For BMAN30211 at least 40% at the first attempt in BMAN21020
 - or BMAN31040 at least 40% at the first attempt in BMAN21040.
- Students should consider taking up to two Level 4 MATH course unit options in the third year as this will increase choice and give flexibility in the Fourth Year.
- The Fourth Year project **MUST** be in Financial Mathematics.
- Students who take MATH37001 cannot take MTH47201, and vice versa.
- Please check the timetables before selecting course units.

Course descriptions on each course unit includes information on assessment criteria's, lecturer, syllabus, learning outcomes, etc., and they are available from the 'My Course' tab in 'My Manchester' by searching the subject code or you can browse them from the Schools 'Study' website.

Level 4 course units

Description	Semester	Requirement	Credit Rating	Level
MATH40000 - Double Project	1 and 2	Mandatory	30	4
BMAN30211 - Corporate Governance in Context	1	Optional	10	4

Description	Semester	Requirement	Credit Rating	Level
MATH41061 - Differentiable Manifolds	1	Optional	15	4
MATH42041 - Noncommutative Algebra	1	Optional	15	4
MATH42061 - Representation and Characters of Groups	1	Optional	15	4
MATH42121 - Galois Theory	1	Optional	15	4
MATH43021 - Set Theory	1	Optional	15	4
MATH43051 - Model Theory	1	Optional	15	4
MATH44041 - Applied Dynamical Systems	1	Optional	15	4
MATH45061 - Continuum Mechanics	1	Optional	15	4
MATH46101 - Numerical Linear Algebra	1	Optional	15	4
MATH47101 - Stochastic Calculus	1	Optional	15	4
MATH47201 - Martingales Theory for Finance	1	Optional	15	4
MATH48001 - Statistical Inference	1	Optional	15	4
MATH48011 - Linear Models with Nonparametric Regression	1	Optional	15	4
MATH48061 - Multivariate Statistics	1	Optional	15	4
MATH48091 - Statistical Computing	1	Optional	15	4
MATH48181 - Extreme Values and Financial Risk	1	Optional	15	4
MATH48191 - Statistical Modelling in Finance	1	Optional	15	4

Description	Semester	Requirement	Credit Rating	Level
MATH49111 - Scientific Computing	1	Optional	15	4
MATH62061 - Representation and Characters of Groups	1	Optional	15	4
MATH40082 - Computational Finance	2	Optional	15	4
MATH41012 - Fourier Analysis & Lebesgue Integration	2	Optional	15	4
MATH41022 - Analytic Number Theory	2	Optional	15	4
MATH42112 - Lie Algebras	2	Optional	15	4
MATH42132 - Algebraic Number Theory	2	Optional	15	4
MATH42142 - Analysis, Random Walks and Groups	2	Optional	15	4
MATH43042 - Godel's Theorems	2	Optional	15	4
MATH45122 - Transport Phenomena and Conservation Laws	2	Optional	15	4
MATH45132 - Stability Theory	2	Optional	15	4
MATH46052 - Approximation Theory and Finite Element Analysis	2	Optional	15	4
MATH46132 - Numerical Optimisation & Inverse Problems	2	Optional	15	4
MATH47112 - Brownian Motion	2	Optional	15	4
MATH48032 - Time Series Analysis and Financial Forecasting	2	Optional	15	4
MATH48052 - Generalised Linear Models	2	Optional	15	4

Description	Semester	Requirement	Credit Rating	Level
and Survival Analysis				
MATH48082 - Design and Analysis of Experiments	2	Optional	15	4
MATH48122 - Markov Chain Monte Carlo	2	Optional	15	4
MATH48132 - Longitudinal Data Analysis	2	Optional	15	4
MATH49102 - Stochastic Modelling in Finance	2	Optional	15	4
BMAN31040 - Advanced Management Accounting	1 and 2	Optional	20	4