Mathematics with a Modern Language (4 Years) [BSc]

Year 4 Programme Structure

The 4th year of this degree programme consists of one compulsory (=mandatory) 20-credit course unit in your chosen language, 80 credits of optional Level 3 MATH course units listed under Level 4 Course Units below, and one optional 20-credit language course unit. All the language course units, both compulsory and optional, are listed here (Language course units. You can access all course descriptions via your 'My Manchester' student portal.

The Schools of Arts, Languages and Cultures studentnet
is http://www.alc.manchester.ac.uk/studentintranet/, where you can locate further details regards the School.

Note that each compulsory 20-credit language course unit listed counts as level 3. Apart from that course unit, students on this degree must take at least 80 credits at Level 3 or Level 4. The level 4 MATH course units available are 15-credit options so (for instance) two level 4 course units could replace three at level 3; however, students are advised to think carefully before taking on material that may be more intellectually demanding and may require more pre-requisites. For this reason it is often advisable to discuss taking a course with the lecturer, and School approval will be required - please complete the online course unit permission form available from the school's intranet site.

Students can if they wish take at most 20 credits at Level 2 in the final year (for which approval is required – please complete the online course unit permission form which offers you the opportunity to take a subject you were not able to do in the second year.

Another option for final-year students on this degree is to take a 10-credit level 3 project (which is either MATH30011 in semester 1 or MATH30022 in semester 2). This gives you the opportunity to pursue independent investigation into a topic you are interested in, with the guidance of a member of staff who is an expert in that area. This is a great way for students to develop their transferable research, communication and presentation skills by organising and producing a written report and giving a short verbal presentation. The list of project topics varies from year to year and the current suggested topics are located in the undergraduate project section of the intranet.

Finally, for those who are considering teaching as a career, there is the course unit MATH30002 Mathematics Education. This course has limited places available and you must apply for a place by completing the online form.

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
FREN51050 - French Language 5	1 and 2	Mandatory	20	3
GERM51050 - German Language 5	1 and 2	Mandatory	20	3
RUSS51050 - Russian Language 5	1 and 2	Mandatory	20	3
SPLA51060 - Spanish Language 6	1 and 2	Mandatory	20	3
MATH30011 - Project (Semester One)	1	Optional	10	3
MATH31001 - Linear Analysis	1	Optional	10	3
MATH32001 - Group Theory	1	Optional	10	3
MATH32011 - Commutative Algebra	1	Optional	10	3
MATH32071 - Number Theory	1	Optional	10	3
MATH32091 - Combinatorics and Graph Theory	1	Optional	10	3
MATH33011 - Mathematical Logic	1	Optional	10	3
MATH34001 - Applied Complex Analysis	1	Optional	10	3
MATH34011 - Asymptotic Expansions & Perturbation Methods	1	Optional	10	3
MATH35001 - Viscous Fluid Flow	1	Optional	10	3
MATH35021 - Elasticity	1	Optional	10	3
MATH36001 - Matrix Analysis	1	Optional	10	3
MATH36041 - Essential Partial Differential Equations	1	Optional	10	3

Description	Semester	Requirement	Credit Rating	Level
MATH36061 - Convex Optimization	1	Optional	10	3
MATH37001 - Martingales with Applications to Finance	1	Optional	10	3
MATH38001 - Statistical Inference	1	Optional	10	3
MATH38141 - Regression Analysis	1	Optional	10	3
MATH38161 - Multivariate Statistics and Machine Learning	1	Optional	10	3
MATH38181 - Extreme Values and Financial Risk	1	Optional	10	3
MATH30002 - Mathematics Education	2	Optional	10	3
MATH30022 - Project (Semester 2)	2	Optional	10	3
MATH31042 - Fractal Geometry	2	Optional	10	3
MATH31052 - Topology	2	Optional	10	3
MATH31082 - Riemannian Geometry	2	Optional	10	3
MATH32032 - Coding Theory	2	Optional	10	3
MATH32052 - Hyperbolic Geometry	2	Optional	10	3
MATH32062 - Algebraic Geometry	2	Optional	10	3
MATH34032 - Green's Functions, Integral Equations and Applications	2	Optional	10	3
MATH35012 - Wave Motion	2	Optional	10	3
MATH35032 - Mathematical Biology	2	Optional	10	3
MATH35082 - Symmetry in Geometry and Nature	2	Optional	10	3

Description	Semester	Requirement	Credit Rating	Level
MATH36022 - Numerical Analysis II	2	Optional	10	3
MATH36032 - Problem Solving by Computer	2	Optional	10	3
MATH37012 - Markov Processes	2	Optional	10	3
MATH38032 - Time Series Analysis	2	Optional	10	3
MATH38052 - Generalised Linear Models	2	Optional	10	3
MATH38072 - Medical Statistics	2	Optional	10	3
MATH39032 - Mathematical Modelling in Finance	2	Optional	10	3
MATH30000 - Double Project	1 and 2	Optional	20	3