

Department of Mathematics

About the department

The Mathematics Department at Royal Holloway is a lively and friendly place with an international reputation for the quality of its teaching and research. Academic staff are active in pioneering research which is making an impressive impact on the world stage. This strong research culture influences our curriculum, helping students to keep in touch with the latest developments in the field.

Mathematics courses at Royal Holloway cover a diverse spectrum from abstract pure mathematics to applications in information security, theoretical physics, finance and statistics.

Entry requirements

The courses listed below are open to all Study Abroad, International and Erasmus students, subject to any required previous knowledge or qualifications, as stated in the course outlines below.

Each course is either $\frac{1}{2}$ or 1 unit and starts in either the Autumn Term (September) or the Spring Term (January). The information contained in the course outlines on the following pages is correct at the time of publication but may be subject to change as part of our policy of continuous improvement and development.

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royalholloway.ac.uk/Mathematics



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Course options for visiting students

Course code	Course name	½ or 1 unit	Start date	Course description/pre-requisites
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Level 1 courses

MT1100	<i>From Euclid to Mandelbrot</i>	½ unit	September 2018	Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1100-course-specification-form.pdf
MT1710	<i>Calculus</i>	½ unit	September 2018	Pre-requisites: A-level mathematics or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1710-course-specification-form.pdf
MT1810	<i>Number systems</i>	½ unit	September 2018	Pre-requisites: A-level mathematics or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1810-course-specification-form.pdf
MT1940	<i>Numbers and functions</i>	½ unit	September 2018	Pre-requisites: A-level mathematics or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1940-course-specification-form.pdf
MT1210	<i>Introduction to Applied Mathematics</i>	½ unit	January 2019	Pre-requisites: MT1710 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1210-course-specification-form.pdf



Course options for visiting students

MT1300	<i>Principles of Statistics</i>	½ unit	January 2019	Pre-requisites: MT1710 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1300-course-specification-form.pdf
MT1720	<i>Functions of Several Variables</i>	½ unit	January 2019	Pre-requisites: MT1710 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1720-course-specification-form.pdf
MT1820	<i>Matrix Algebra</i>	½ unit	January 2019	Pre-requisites: MT1810 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt1820-course-specification-form.pdf

Level 2 courses

MT2220	<i>Vector Analysis and Fluids</i>	½ unit	September 2018	Pre-requisites: MT1710 and MT1720 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2220-course-specification-form.pdf
MT2300	<i>Statistical Methods</i>	½ unit	September 2018	Pre-requisites: MT1300 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2300-course-specification-form.pdf
MT2800	<i>Linear Algebra and a Group Project</i>	½ unit	September 2018	Pre-requisites: MT1820 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2800-course-specification-form.pdf



Course options for visiting students

MT2830	<i>Rings and Factorisation</i>	½ unit	September 2018	Pre-requisites: MT1810 and MT1820 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2830-course-specification-form.pdf
MT2940	<i>Real Analysis</i>	½ unit	September 2018	Pre-requisites: MT1940 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2940-course-specification-form.pdf
MT2320	<i>Probability</i>	½ unit	September 2018	Pre-requisites: MT1720 and MT1810 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2320-course-specification-form.pdf
MT2630	<i>Graphs and Optimisation</i>	½ unit	September 2018	Pre-requisites: MT1810 and MT1820 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2630-course-specification-form.pdf
MT2720	<i>Ordinary Differential Equations and Fourier Analysis</i>	½ unit	September 2018	Pre-requisites: MT1710, MT1720 and MT1820 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2720-course-specification-form.pdf
MT2860	<i>Groups and Group Actions</i>	½ unit	September 2018	Pre-requisites: MT1810 and MT1820 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2860-course-specification-form.pdf
MT2900	<i>Complex Variable</i>	½ unit	September 2018	Pre-requisites: MT1710, MT1720 and MT1810 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2900-course-specification-form.pdf



Course options for visiting students

Level 3 courses

MT3000	Mathematics Project	½ unit	tbc	Pre-requisites: sufficient mathematical maturity Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3000-course-specification-form.pdf
MT3110	Number Theory	½ unit	September 2018	Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3110-course-specification-form.pdf
MT3200	Quantum Theory	½ unit	September 2018	Pre-requisites: MT2720 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3200-course-specification-form.pdf
MT3280	Non-Linear Dynamical Systems: Routes to Chaos	½ unit	September 2018	Pre-requisites: MT1720 and MT1820 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3280-course-specification-form.pdf
MT3320	Inference	½ unit	September 2018	Pre-requisites: MT2320 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3320-course-specification-form.pdf
MT3340	Time Series Analysis	½ unit	September 2018	Pre-requisites: MT1300 and MT2320 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3340-course-specification-form.pdf
MT3410	Channels	½ unit	September 2018	Pre-requisites: MT2320 and MT2800 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3410course-specificationform.pdf
MT3450	Quantum Information and Coding	½ unit	January 2018	Pre-requisites: MT2800 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3450-course-specification-form.pdf
MT3470	Mathematics of Financial Markets	½ unit	September 2018	Pre-requisites: MT720 and (MT1300 or MT2320) or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3470-course-specification-form.pdf



Course options for visiting students

MT3540	Combinatorics	½ unit	September 2018	Pre-requisites: MT2630 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt2630-course-specification-form.pdf
MT3620	Cipher Systems	½ unit	September 2018	Pre-requisites: MT1820 and some probability or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3620-course-specification-form.pdf
MT3240/ PH2420	Electromagnetism	½ unit	September 2018	Pre-requisites: MT2220 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3240-course-specification-form.pdf
MT3850	Applications of Field Theory	½ unit	September 2018	Pre-requisites: MT2800 and MT2830 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3850coursespecificationform.pdf
MT3090	Mathematics in the Classroom	½ unit	January 2019	Pre-requisites: sufficient mathematical maturity Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3090-course-specification-form.pdf
MT3120	Computational Number Theory	½ unit	January 2019	Pre-requisites: MT3110 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3120coursespecificationform.pdf
MT3140	Principles of Algorithm Design	½ unit	January 2019	Pre-requisites: MT2630 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3140coursespecificationform.pdf
MT3220	Dynamics of Real Fluids	½ unit	January 2019	Pre-requisites: MT2220 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3220-course-specification-form.pdf



Course options for visiting students

MT3360	Applied Probability	½ unit	January 2019	Pre-requisites: MT2320 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3360-course-specification-form.pdf
MT3480	Advanced Financial Mathematics	½ unit	January 2019	Pre-requisites: MT3470 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3480coursespecificationform.pdf
MT3610	Error-Correcting Codes	½ unit	January 2019	Pre-requisites: MT1820 or MT2800 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3610-course-specification-form.pdf
MT3660	Public Key Cryptography	½ unit	January 2019	Pre-requisites: MT2630, MT3110 and MT3620 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3660coursespecificationform.pdf
MT3860	Groups and Group Actions	½ unit	January 2019	Pre-requisites: MT1810 and MT1820 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3860coursespecificationform.pdf
MT3910	Topology	½ unit	January 2019	Pre-requisites: MT1940 or equivalent Course description: https://www.royalholloway.ac.uk/mathematics/documents/pdf/coursespecs/mt3910coursespecificationform.pdf

