Programme Specification
MMath Mathematics   **UCAS Code: G103**
For students entering Part 1 in September 2019   **UFMATHM**
                                                               UFMATHMPE
                                                               UFMATHMSY

This document sets out key information about your Programme and forms part of your Terms and Conditions with the University of Reading.

Awarding Institution	University of Reading
Teaching Institution	University of Reading
Length of Programme	4 years
Length of Programme with placement/year abroad	MMath Mathematics with a Placement Year - 5 years (UCAS Code: G104) MMath Mathematics with Study Year Abroad - 5 years (internal transfer only)
Accreditation	Accredited by the Institute of Mathematics and its applications to meet the educational requirements of the Chartered Mathematician designation.

Programme information and content	
The programme aims to provide you with the foundation needed to become a professional mathematician. It achieves this by including a range of topics underlying the main areas of modern work in the subject together with a wide selection of specialist topics studied in depth.	
Part 1:	Introduces you to core skills and knowledge through a number of introductory modules designed to manage the transition from A level (or equivalent) to university level mathematics. The Foundations of Mathematics module will establish the need for proof and will enable students to construct their own formal proofs. Other compulsory Part 1 mathematics modules build on and reinforce core material from the A level syllabus and form the basis for more advanced study in later years.
Part 2:	Provides you with more advanced topics in mathematics: the modules Vector Calculus and Differential Equations will employ techniques established in Part 1 Calculus and Linear Algebra. The concept of abstract algebra is introduced and builds on the Part 1 Foundations module. Students have the option here to explore modules in statistics, opening up Part 3 optional modules in this important area of mathematics.
Placement/Study abroad year:	The placement year provides experience of working in industry, government, research or other appropriate organisations. Training takes place in the workplace, usually including attendance at Continuing Professional Development courses as well as mentoring by a line manager. Actual contact hours will vary according to the placement and employer.

Part 3:	Gives you the opportunity to undertake some project work in mathematics, statistics or work related to the teaching of mathematics via our Peer Assisted Learning module. Most of your modules will be optional, allowing you to express your preference for certain topics in pure or applied mathematics and statistics.
Part 4:	In Part 4 students will undertake a major piece of advanced project work. Other modules will be optional, with a range of advanced topics in pure and applied mathematics available.

Module information

Each part comprises 120 credits, allocated across a range of compulsory and optional modules as shown below. Compulsory modules are listed.

Part 1 Modules:

Module	Name	Credits	Level
MA1CA	Calculus	20	4
MA1FM	Foundations of Mathematics	20	4
MA1LA	Linear Algebra	20	4

Students must take a further 60 credits of modules from a list available from the Department of Mathematics and Statistics.

Part 2 Modules:

Module	Name	Credits	Level
MA2ALA	Algebra	20	5
MA2DE	Differential Equations	20	5
MA2PSM	Professional Skills for Mathematicians	10	5
MA2VC	Vector Calculus	10	5

Students must also take either Real Analysis I or Real and Complex Analysis, and must take a further 40 credits of optional modules from a list available from the Department of Mathematics and Statistics.

Modules during a placement year or study year (if applicable):

Students on the 5 year version of the programme will take one 120 credit module during their placement year.

Students may be permitted to undertake a placement year between Part 2 and Part 3 of the programme. In such cases students will transfer to a 5-year programme. The placement year should not normally be shorter than nine months full-time.

If you take a year-long placement or study abroad, Part 3 as described below may be subject to variation.

Part 3 Modules:

Module	Name	Credits	Level	

Students must take 120 credits of optional modules from a list available from the Department of Mathematics and Statistics, at least 70 credits of which must be Mathematics modules.

The selection must include a Mathematics or Statistics project, or a peer assisted learning module. Those who have not taken Real and Complex Analysis in Part 2 must take it here.

Part 4 modules:

Module	Name	Credits	
MA4XA	Fourth Year Project	40	

Students must take a further 80 credits of options from a list available from the Department of Mathematics and Statistics.

Optional modules:

The optional modules available can vary from year to year. An indicative list of the range of optional modules for your Programme is set out in the Further Programme Information. Details of optional modules for each part, including any Additional Costs associated with the optional modules, will be made available to you prior to the beginning of the Part in which they are to be taken and you will be given an opportunity to express interest in the optional modules that you would like to take. Entry to optional modules will be at the discretion of the University and subject to availability and may be subject to pre-requisites, such as completion of another module. Although the University tries to ensure you are able to take the optional modules in which you have expressed interest this cannot be guaranteed.

Additional costs of the programme

During your programme of study you will incur some additional costs.

For textbooks and similar learning resources, we recommend that you budget up to £100 per year, depending on your preference to have your own books rather than borrow from the library. Some books may be available second-hand, which will reduce costs. A range of resources to support your curriculum, including textbooks and electronic resources, are available through the library. Reading lists and module specific costs are listed on the individual module descriptions.

You will need an approved scientific calculator (approximate cost £12).

Costs are indicative and may vary according to optional modules chosen and are subject to inflation and other price fluctuations.

The estimates were calculated in 2017.

Placement opportunities

You will be provided with the opportunity to undertake a credit-bearing placement as part of your Programme. This will form all or part of an optional module. You will be required to find and secure a placement opportunity, with the support of the University.

Teaching and learning delivery:

You will be taught through lectures, tutorials, practical classes and supervised project work.

The contact hours for your Programme will be (on average) 348 hours for Part 1, 372 hours for Part 2, 228 hours for Part 3 and 192 hours for Part 4, and will depend upon your module combination; however information about module contact hours can be located in the relevant module description.

Accreditation details

Both the programmes of MMath Mathematics and MMath Mathematics with a Placement Year are accredited by the Institute of Mathematics and Its Applications (IMA). Accreditation guarantees that the educational requirements for the Chartered Mathematician (CMath) designation are met. When you successfully complete the degree you can apply for Associate Membership of the IMA.

Assessment

The programme will be assessed through a combination of written examinations and coursework. However, some modules are assessed only by coursework, while others are assessed solely by examination. Details are given in the relevant module descriptions.

Progression

The University-wide rules relating to 'threshold performance' as follows

Part 1

(i) obtain an overall weighted average of 40% in 120 credits
(ii) obtain a mark of at least 30% in individual modules amounting to at least 100 credits taken in Part 1.

In order to progress from Part 1 to Part 2, a student must achieve a threshold performance; and
(iii) obtain a weighted average of at least 40% over MA1CA, MA1LA and MA1FM; and
(iv) obtain marks of at least 30% in 120 credits.

The achievement of a threshold performance at Part 1 qualifies a student for a Certificate of Higher Education if they leave the University before completing the subsequent Part.

Part 2
To gain a threshold performance at Part 2, a student shall normally be required to:

(i) obtain a weighted average of 40% over 120 credits taken at Part 2; and
(ii) obtain marks of at least 40% in individual modules amounting to at least 80 credits; and
(iii) obtain marks of at least 30% in individual modules amounting to at least 120 credits, except that a mark below 30% may be condoned in no more than 20 credits of modules owned by the Department of Mathematics and Statistics.

In order to progress from Part 2 to Part 3 in the **4 year programme**, a student must achieve a threshold performance; and

(iv) obtain an overall weighted average of 50% over 120 credits taken in Part 2.

Students who fail to progress are permitted one re-sit examination in each module in which they obtain less than 50%.

For any module passed in a re-sit examination the maximum mark carried forward into the final degree classification will be the higher of (a) the first attempt mark and (b) the lower of 40 and the mark achieved in the re-examination. Students who do not meet the requirements for progression on the MMath but gain a threshold performance at Part 2 are eligible to transfer to BSc Mathematics.

The achievement of a threshold performance at Part 2 qualifies a student for a Diploma of Higher Education if they leave the University before completing the subsequent Part.

In order to progress from Part 2 to Part 3 in the 5 year programme, a student must fulfil the above criteria and obtain a pass in the professional/work placement or study abroad year. Students who fail the professional/placement year transfer to the non-placement year version of the programme.

Part 3

To gain a threshold performance at Part 3, a student shall normally be required to:

(i) obtain a weighted average of 40% over 120 credits taken at Part 3;

Students who fail to progress are permitted one re-sit examination in each module in which they obtain less than 40%. For any module passed in a re-sit examination the maximum mark carried forward into the final degree classification will be the higher of (a) the first attempt mark and (b) the lower of 40 and the mark achieved in the re-examination. Students who do not meet the requirements for progression to Part 4 will be eligible for the award of BSc Mathematics, provided they have satisfied the criteria for a Bachelor's degree.

The classification for the BSc programme will be based on one third of the overall weighted average in Part 2 and two-thirds of the overall weighted average in Part 3.

Classification

Integrated Masters' degrees

Mark	Interpretation
70% - 100%	First class
60% - 69%	Upper Second class
50% - 59%	Lower Second class
40% - 49%	Third class
39% - 0%	Fail

The weighting of the Parts/Years in the calculation of the degree classification is:

Integrated Masters programmes:
Part 2: 20%
Part 3: 30%
Part 4: 50%

Five year programmes, including professional/work placement or study abroad:
Part 2: 20%
Placement/Study Abroad Year abroad not included in the classification
Part 3: 30 %
Part 4: 50%

For further information about your Programme please refer to the Programme Handbook and the relevant module descriptions, which are available at <u>http://www.reading.ac.uk/module/</u>. The Programme Handbook and the relevant module descriptions do not form part of your Terms and Conditions with the University of Reading.

MMath Mathematics for students entering Part 1 in session 2019/20
11 September 2019