These programme regulations should be read in conjunction with the University's core regulations for undergraduate programmes, and the marking and classification conventions for undergraduate programmes.

MMath Mathematics and Statistics (G114)

MMath Mathematics and Statistics with Year Abroad (G115)

MMath Mathematics and Statistics with Placement (G116)

1. This programme is available at Durham City, in a full-time mode of study.

Level 1 (Certificate)

2. Candidates shall study and be assessed in the following modules:

		Credit value
Analysis I #	MATH1051	20
Calculus I #	MATH1061	20
Linear Algebra I #	MATH1071	20
Dynamics I	MATH1607	10
Probability I	MATH1597	10
Programming I	MATH1587	10
Statistics I	MATH1617	10

3. Candidates shall also study and be assessed in modules to the value of 20 credits offered by any Boards of Studies (including up to 20 credits of appropriate language modules offered by the University's Centre for Foreign Language Study).

Level 2 (Diploma)

4. Candidates shall study and be assessed in the following modules:

		Credit value
Analysis in Many Variables II	MATH2031	20
Statistical Inference	MATH2711	20
Data Science and Statistical Computing	MATH2687	10
Statistical Modelling	MATH2697	10

5. Candidates shall also study and be assessed in modules to the value of 60 credits from List A:

List A:		**Credit value**
Algebra II	MATH2581	20
Complex Analysis II	MATH2011	20
Mathematical Physics II	MATH2071	20
Numerical Analysis II	MATH2051	20
Elementary Number Theory II	MATH2617	10
Geometric Topology II	MATH2627	10
Markov Chains	MATH2707	10
Mathematical Modelling II	MATH2637	10
Probability II	MATH2647	10
Special Relativity and Electromagnetism II	MATH2657	10

Year Abroad (Year 3)

6. This programme is only available to students admitted initially to the MMath Mathematics and Statistics (G114) programme (or equivalent). Candidates wishing to transfer to MMath Mathematics and Statistics with year abroad (G115) must:

a. successfully complete Level 1 of the MMath Mathematics and Statistics (G114) programme (or equivalent) with an average mark of 55%, and be eligible to progress to Level 2 of the honours programme;

b. before the beginning of the first term of Level 2 study, have applied to the Board of Studies in Mathematical Sciences to be admitted to the MMath Mathematics and Statistics with year abroad (G115) and have had their application provisionally approved by that Board;

c. during the first term of Level 2 study, have their application formally approved by that Board upon successful completion of the Mathematical Sciences preparatory placement course.

d. Where tuition at the Overseas Partner Institution is in a foreign language, candidates must have taken at least 20 credits in an appropriate language module at level 1.

Placement (Year 3)

7. This programme is only available to students admitted initially to the MMath Mathematics and Statistics (G114) programme (or equivalent). Candidates wishing to transfer to MMath Mathematics and Statistics with Placement (G116) must:

a. successfully complete Level 1 of the MMath Mathematics and Statistics (G114) programme (or equivalent) with an average mark of 55%, and be eligible to progress to Level 2 of the honours programme;

b. before the beginning of the first term of Level 2 study, have applied to the Board of Studies in Mathematical Sciences to be admitted to the MMath Mathematics and Statistics with Placement (G116) and have had their application provisionally approved by that Board;

c. during the first term of Level 2 study, have their application formally approved by that Board upon successful completion of the Mathematical Sciences preparatory placement course.

8. During the third year candidates shall undertake an approved placement in industry, or in an institution or organisation undertaking research, for 40 weeks.

Level 3 (Degree)

9. Candidates shall study and be assessed in modules to the value of at least 60 credits from List B, including at least 20 credits from list C:

List B:		**Credit value**
Advanced Statistical Modelling	MATH3411	20
Bayesian Computation and Modelling	MATH3421	20
Decision Theory	MATH3071	20
Machine Learning and Neural Networks	MATH3431	20
Mathematical Finance	MATH3301	20
Stochastic Processes	MATH3441	20
List C:		
Advanced Statistical Modelling	MATH3411	20
Bayesian Computation and Modelling	MATH3421	20

10. Candidates shall study and be assessed to the value of at most 60 credits in any other modules offered at Level 3 by the Department of Mathematical Sciences; OR to the value of at most 40 credits in any other modules offered at Level 3 by the Department of Mathematical Sciences and one open 20-credit module chosen from those offered by any other Board of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).

Level 4 (Degree)

11. Candidates shall study and be assessed in one of the following modules:

		Credit value
Project IV	MATH4072	40
Internship Project IV	MATH4352	40

12. Candidates shall also study and be assessed in modules to the value of 40 credits from List E:

List E:		**Credit value**
Spatio-Temporal Statistics	MATH4341	20
Deep Learning and Artificial Intelligence	MATH4267	10
Discrete and Continuous Probability	MATH4277	10
High-Dimensional Data Analysis	MATH4287	10
Non-Parametric Statistics	MATH4297	10

Object-Oriented Statistics	MATH4307	10
Robust Bayesian Analysis	MATH4317	10
Topics in Probability	MATH4327	10
Uncertainty Quantification	MATH4337	10

13. Candidates shall study and be assessed to the value of at most 40 credits in any other modules offered at Level 4 by the Department of Mathematical Sciences; OR, subject to the agreement of the Mathematics Board of Studies, to the value of at most 20 credits in any other modules offered at Level 4 by the Department of Mathematical Sciences and to the value of at most 20 credits chosen from modules offered by any other Board of Studies.

Year Abroad

14. Students admitted to the MMath Mathematics and Statistics (G114) are able to apply to transfer to the MMath Mathematics and Statistics with Year Abroad programme (G115). Students undertaking the MMath Mathematics and Statistics with Year Abroad programme (G115) will undertake an approved year abroad chosen in consultation with the programme director and the host.

15. Students who the Board of Examiners for Mathematics deem to have made satisfactory progress on the placement year will continue to Level 3 of the MMath Mathematics and Statistics with Year Abroad (G115). Students who have not made satisfactory progress on the year abroad will not be permitted to continue on the MMath Mathematics and Statistics with Year Abroad (G115) programme, but must instead proceed to Level 3 of the MMath Mathematics and Statistics (G114) programme.

Placement

16. Students admitted to the MMath Mathematics and Statistics (G114) are able to apply to transfer to the MMath Mathematics and Statistics with Placement programme (G116). Students undertaking the MMath Mathematics and Statistics with Placement programme (G116) will undertake an approved placement chosen in consultation with the programme director and the host.

17. Students who the Board of Examiners for Mathematics deem to have made satisfactory progress on the placement year will continue to Level 3 of the MMath Mathematics and Statistics with Placement (G116). Students who have not made satisfactory progress on the placement will not be permitted to continue on the MMath Mathematics and Statistics with Placement (G116) programme, but must instead proceed to Level 3 of the MMath Mathematics and Statistics (G114) programme.

Assessment, progression and award

18. Modules marked with a # must be passed at 40% or above in order to progress to the Ordinary degree at the next Level.

19. Students who fail to achieve the standard required under the Core Regulations for progression to Level 3 of the MMath but who achieve the standard required for progression to Level 3 of a Bachelors programme may progress to Level 3 of the BSc in Mathematics at either Honours or Ordinary level in accordance with the Core Regulations.

20. A student who is qualified to progress from Level 2 to Level 3 of the MMath but wishes to transfer to Level 3 of the BSc Mathematics shall be permitted to do so.

21. Students whose achievement at the end of Level 3 does not qualify them to proceed to Level 4 may be awarded the degree of BSc in Mathematical Sciences at either Honours or Ordinary level in accordance with the Core Regulations for the award of a Bachelors degree.

22. Students whose achievement at the end of Level 4 does not qualify them to be awarded the degree of MMath may be awarded the degree of BSc in Mathematical Sciences with Honours in accordance with the Core Regulations for the award of a Bachelors degree.