

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](#).

### **BSc Mathematics and Statistics (G111)**

### **BSc Mathematics and Statistics with Year Abroad (G112)**

### **BSc Mathematics and Statistics with Placement (G113)**

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:

		<b>Credit value</b>
Analysis I #	<a href="#">MATH1051</a>	20
Calculus I (Maths Hons) #	<a href="#">MATH1081</a>	20
Linear Algebra I (Maths Hons) #	<a href="#">MATH1091</a>	20
Dynamics I	<a href="#">MATH1607</a>	10
Probability I #	<a href="#">MATH1597</a>	10
Programming I	<a href="#">MATH1587</a>	10
Statistics I #	<a href="#">MATH1617</a>	10

3. Candidates shall also study and be assessed in EITHER the module

		<b>Credit value</b>
Discrete Mathematics	<a href="#">MATH1031</a>	20

OR module(s) to the value of 20 credits offered by any other 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:

		<b>Credit value</b>
Analysis in Many Variables II	<a href="#">MATH2031</a>	20
Statistical Inference #	<a href="#">MATH2711</a>	20
Data Science and Statistical Computing	<a href="#">MATH2687</a>	10
Statistical Modelling	<a href="#">MATH2697</a>	10

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

<b>List A:</b>		<b>Credit value</b>
Algebra II	<a href="#">MATH2581</a>	20
Complex Analysis II	<a href="#">MATH2011</a>	20
Mathematical Physics II	<a href="#">MATH2071</a>	20
Numerical Analysis II	<a href="#">MATH2051</a>	20
Elementary Number Theory II	<a href="#">MATH2617</a>	10
Markov Chains	<a href="#">MATH2707</a>	10
Mathematical Modelling II	<a href="#">MATH2637</a>	10
Probability II	<a href="#">MATH2647</a>	10
Special Relativity and Electromagnetism II	<a href="#">MATH2657</a>	10
Topology II	<a href="#">MATH2727</a>	10

#### **Year Abroad (Year 3)**

6. This programme is only available to students admitted initially to the BSc Mathematics and Statistics (G111) programme (or equivalent). Candidates wishing to transfer to BSc Mathematics and Statistics with year abroad (G112) must:

- a. successfully complete Level 1 of the BSc Mathematics and Statistics (G111) programme (or equivalent) with an average mark of 55%, and be eligible to progress to Level 2 of the programme;
- b. during Level 2 study, have applied to the Board of Studies in Mathematical Sciences to be admitted to the BSc Mathematics and Statistics with year abroad (G112) and have had their application approved by that Board;
- c. secure an exchange opportunity with an approved international partner institution of the University;
- d. successfully complete Level 2 of their existing programme (G111 or equivalent) so as to be eligible to progress to Level 3;
- e. 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 BSc Mathematics and Statistics (G111) programme (or equivalent). Candidates wishing to transfer to BSc Mathematics and Statistics with Placement (G113) must:
  - a. successfully complete Level 1 of the BSc Mathematics and Statistics (G111) programme (or equivalent) with an average mark of 55%, and be eligible to progress to Level 2 of the programme;
  - b. during Level 2 study, have applied to the Board of Studies in Mathematical Sciences to be admitted to the BSc Mathematics and Statistics with Placement (G113) and have had their application approved by that Board;
  - c. secure an exchange opportunity with an approved international partner institution of the University;
  - d. successfully complete Level 2 of their existing programme (G111 or equivalent) so as to be eligible to progress to Level 3.
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 one of the following modules:

		<b>Credit value</b>
Project III	<a href="#">MATH3382</a>	40
Internship Project	<a href="#">MATH3452</a>	40

10. Candidates shall also study and be assessed in modules to the value of at least 40 credits from Lists B and C, where at least 20 credits are taken from List B:

<b>List B:</b>		<b>Credit value</b>
Advanced Statistical Modelling	<a href="#">MATH3411</a>	20
Bayesian Computation and Modelling	<a href="#">MATH3421</a>	20

<b>List C:</b>		<b>Credit value</b>
Decision Theory	<a href="#">MATH3071</a>	20
Machine Learning and Neural Networks	<a href="#">MATH3431</a>	20
Mathematical Finance	<a href="#">MATH3301</a>	20
Stochastic Processes	<a href="#">MATH3251</a>	20

11. Candidates shall also study and be assessed to the value of at most 40 credits **EITHER** from List D, which is guaranteed to be timetable compatible with lists B and C:

<b>List D:</b>		<b>Credit value</b>
Analysis III	<a href="#">MATH3011</a>	20
Cryptography and Codes III	<a href="#">MATH3401</a>	20
Decision Theory III	<a href="#">MATH3071</a>	20
Mathematical Biology III	<a href="#">MATH3171</a>	20
Mathematics into Schools	<a href="#">MATH3481</a>	20
Number Theory III	<a href="#">MATH3031</a>	20
Partial Differential Equations III	<a href="#">MATH3291</a>	20
Advanced Statistical Modelling III	<a href="#">MATH3411</a>	20
Bayesian Computation and Modelling III	<a href="#">MATH3421</a>	20
Operations Research III	<a href="#">MATH3141</a>	20
Fluid Mechanics III	<a href="#">MATH3101</a>	20
Machine Learning and Neural Networks III	<a href="#">MATH3431</a>	20
Stochastic Processes III	<a href="#">MATH3251</a>	20
Mathematical Finance III	<a href="#">MATH3301</a>	20

**OR**, subject to timetable compatibility, may choose from any modules offered at Level 3 by the Department of Mathematical Sciences, and up to 20 credits of open modules 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).

### **Year Abroad**

- Students admitted to the BSc Mathematics and Statistics (G111) are able to apply to transfer to the BSc Mathematics and Statistics with Year Abroad programme (G112). Students undertaking the BSc Mathematics and Statistics with Year Abroad programme (G112) will undertake an approved year abroad chosen in consultation with the programme director and the host.
- 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 BSc Mathematics and Statistics with Year Abroad (G112). Students who have not made satisfactory progress on the year abroad will not be permitted to continue on the BSc Mathematics and Statistics with Year Abroad (G112) programme, but must instead proceed to Level 3 of the BSc Mathematics and Statistics (G111) programme.

### **Placement**

- Students admitted to the BSc Mathematics and Statistics (G111) are able to apply to transfer to the BSc Mathematics and Statistics with Placement programme (G113). Students undertaking the BSc Mathematics and Statistics with Placement programme (G113) will undertake an approved placement chosen in consultation with the programme director and the host.
- 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 BSc Mathematics and Statistics with Placement (G113). Students who have not made satisfactory progress on the placement will not be permitted to continue on the BSc Mathematics and Statistics with Placement (G113) programme, but must instead proceed to Level 3 of the BSc Mathematics and Statistics (G111) programme.

### **Assessment, progression and award**

- Modules marked with the # symbol must be passed at 40% or above in order to progress to the next level of study.