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.

## Master of Mathematics (European Studies) (G101)

**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 |
|---|---|---|
| Calculus and Probability I # | MATH1061 | 20 |
| Linear Algebra I # | MATH1071 | 20 |
| Analysis I # | MATH1051 | 20 |
| Programming and Dynamics | MATH1041 | 20 |

**3.** Candidates shall also study and be assessed in modules to the value of 40 credits from those offered by other boards of studies, of which at least 20 credits must be an appropriate language module.

**Level 2 (Diploma)**

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

| | | Credit value |
|---|---|---|
| Complex Analysis II | MATH2011 | 20 |
| Analysis in Many Variables II | MATH2031 | 20 |

**5.** Candidates shall also study and be assessed in modules to the value of 80 credits from List A:

| **List A:** | | **Credit value** |
|---|---|---|
| Algebra II | MATH2581 | 20 |
| Codes and Geometric Topology II | MATH2141 | 20 |
| Codes and Actuarial Mathematics II | MATH2131 | 20 |
| Elementary Number Theory and Cryptography II | MATH2591 | 20 |
| Mathematical Physics II | MATH2071 | 20 |
| Numerical Analysis II | MATH2051 | 20 |
| Probability and Actuarial Mathematics II | MATH2161 | 20 |
| Probability and Geometric Topology II | MATH2151 | 20 |
| Statistical Concepts II | MATH2041 | 20 |

**Level 3 (Degree)**

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

| | | Credit value |
|---|---|---|
| MMath (Euro) Level 3 Year Abroad | MATH3986 | 120 |

**Level 4 (Degree)**

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

| | | Credit value |
|---|---|---|
| Mathematical Project IV | MATH4072 | 40 |

**8.** Candidates shall also study and be assessed in modules to the value of 80 credits from List C:

| **List C2 (2014-2015):** | | **Credit value** |
|---|---|---|
| Approximation Theory and Solutions to ODEs IV | MATH4221 | 20 |
| Elliptic Functions IV | MATH4151 | 20 |
| Geometry IV | MATH4141 | 20 |
| Number Theory IV | MATH4211 | 20 |

| | | |
|---|---|---|
| Probability IV | MATH4131 | 20 |
| Solitons IV | MATH4121 | 20 |
| Statistical Mechanics IV | MATH4231 | 20 |
| Topics in Statistics IV | MATH4071 | 20 |

| **List C1 (2015-2016):** | | **Credit value** |
|---|---|---|
| Algebraic Geometry IV | MATH4011 | 20 |
| Analysis IV | MATH4201 | 20 |
| Bayesian Statistics IV | MATH4031 | 20 |
| Continuum Mechanics IV | MATH4081 | 20 |
| General Relativity IV | MATH4051 | 20 |
| Representation Theory IV | MATH4241 | 20 |
| Stochastic Processes IV | MATH4091 | 20 |

| **List C3:** | | **Credit value** |
|---|---|---|
| Advanced Quantum Theory IV | MATH4061 | 20 |
| Algebraic Topology IV | MATH4161 | 20 |
| Mathematical Finance IV | MATH4181 | 20 |
| Partial Differential Equations IV | MATH4041 | 20 |
| Riemannian Geometry IV | MATH4171 | 20 |
| Modules up to the value of 20 credits from another board of studies, subject to the agreement of the Mathematics Board of Studies | | 20 |

Lists C1 and C2 will be offered in alternate years. List C3 will run in both years.

**Assessment, progression and award**

9. Modules marked with a # must be passed at 40% or above in order to progress to the Ordinary degree at the next Level.
10. 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.
11. 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.
12. During the third year students must study and be assessed in a mathematics programme (together, possibly, with other topics) in a European university under the Socrates-ERASMUS programme. The student is also required to write an essay (about 2000 words, i.e., 4 pages) at the end of year 3 in a non-English language approved by the Director of Education. The essay will be assessed independently by two members of the Durham Department of Mathematical Sciences fluent in the language, and the mark will count 10% of the overall mark of the year. The results obtained will count fully towards the award of the MMath(Euro).
13. Students whose achievement at the end of Level 3 does not qualify them to proceed to Level 4 may transfer to BSc Mathematics (European Studies) in accordance with the Core Regulations for the award of that degree.
14. The choice of modules at Level 4 is subject to the approval of the course director.
15. 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 Mathematics with Honours in accordance with the Core Regulations for the award of a Bachelors degree.