## MASTER OF MATHEMATICS (G103)

Programme offered at: Durham.

Mode of study: this programme is available full-time.

LEVEL 1 (Certificate)

| | | | |
|---|---|---|---|
| 1-2 | Core Mathematics A | MATH1012 | 40 |
| 3 | Core Mathematics B1 | MATH1051 | 20 |
| 4 | Core Mathematics B2 | MATH1041 | 20 |
| 5-6 | Level 1 open modules to the value of 40 credits chosen from those offered by any Board of Studies | | |

LEVEL 2 (Diploma)

| | | | | |
|---|---|---|---|---|
| 1 | EITHER | Complex Analysis II | MATH2011 | 20 |
| | OR | Contours and Hyperbolic Geometry II | MATH2121 | 20 |
| 2 | Linear Algebra II | | MATH2021 | 20 |
| 3 | Analysis in Many Variables II | | MATH2031 | 20 |
| 4-6 | Modules to the value of 60 credits chosen from: | | | |
| | Statistical Concepts II | | MATH2041 | 20 |
| | Numerical Analysis II | | MATH2051 | 20 |
| | Algebra and Number Theory II | | MATH2061 | 20 |
| | Mathematical Physics II | | MATH2071 | 20 |
| | Topics in Mathematics II | | MATH2101 | 20 |

Notes:
Students who fail to achieve the standard required under the Core Regulations for progression to Level 3 of the MMath but who achieve the standards required for progression to Level 3 of a Bachelors programme may progress to Level 3 of the BSc in Mathematics in the Honours or Ordinary stream in accordance with the Core Regulations;
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 in Mathematics shall be permitted to do so.

LEVEL 3 (Degree)

| | | |
|---|---|---|
| 1-6 | Modules to the value of 120 credits chosen from List A, Algebraic Geometry III (MATH3321) and Mathematics Teaching III (MATH3121) | |

Notes:
Mathematics Teaching III (MATH3121) is a capped module and preference will be given to students on BSc programmes.
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.

LEVEL 4 (Degree)

| | | | |
|---|---|---|---|
| 1-2 | Mathematics Project IV | MATH4072 | 40 |
| 3-6 | Modules to the value of 80 credits chosen from Algebraic Geometry IV (MATH4011) and List B | | |

Notes:
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.

### LIST A

*(Lists A1 and A2 will be offered in alternate years, List A3 will run in both years)*

#### List A1 (2005-2006)

| | | |
|---|---|---|
| Analysis III | MATH3011 | 20 |
| Continuum Mechanics III | MATH3101 | 20 |
| Representation Theory and Modules III | MATH3191 | 20 |
| Stochastic Processes III | MATH3251 | 20 |
| Bayesian Methods III | MATH3311 | 20 |
| General Relativity III | MATH3331 | 20 |
| Mathematical Finance III | MATH3301 | 20 |

**List A2 (2006-2007)**

| | | |
|---|---|---|
| Number Theory III | MATH3031 | 20 |
| Approximation Theory and Solutions to ODEs III | MATH3081 | 20 |
| Geometry III | MATH3201 | 20 |
| Probability III | MATH3211 | 20 |
| Elliptic Functions III | MATH3221 | 20 |
| Solitons III | MATH3231 | 20 |
| Bayesian Statistics III | MATH3**1 | 20 |
| Statistical Mechanics III | MATH3**1 | 20 |

**List A3**

| | | |
|---|---|---|
| Differential Geometry III | MATH3021 | 20 |
| Galois Theory III | MATH3041 | 20 |
| Statistical Methods III | MATH3051 | 20 |
| Operations Research III | MATH3141 | 20 |
| Decision Theory III | MATH3071 | 20 |
| Dynamical Systems III | MATH3091 | 20 |
| Quantum Mechanics III | MATH3111 | 20 |
| Independent Study III | MATH3161 | 20 |
| Mathematical Biology III | MATH3171 | 20 |
| Electromagnetism III | MATH3181 | 20 |
| Topology III | MATH3281 | 20 |
| Partial Differential Equations III | MATH3291 | 20 |

**LIST B**

*(Lists B1 and B2 will be offered in alternate years, List B3 will run in both years)*

**List B1 (2005-2006)**

| | | |
|---|---|---|
| Continuum Mechanics IV | MATH4081 | 20 |
| General Relativity IV | MATH4051 | 20 |
| Stochastic Processes IV | MATH4091 | 20 |
| Representation Theory and Modules IV | MATH4101 | 20 |
| Analysis IV | MATH4201 | 20 |
| Bayesian Methods IV | MATH4191 | 20 |
| Mathematical Finance IV | MATH4181 | 20 |
| Topology IV * | MATH4021 | 20 |

**List B2 (2006-2007)**

| | | |
|---|---|---|
| Bayesian Statistics IV | MATH4031 | 20 |
| Elliptic Functions IV | MATH4151 | 20 |
| Probability IV | MATH4131 | 20 |
| Solitons IV | MATH4121 | 20 |
| Geometry IV | MATH4141 | 20 |
| Statistical Mechanics IV | MATH4**1 | 20 |
| Approximation Theory and Solutions to ODEs IV | MATH4**1 | 20 |
| Number Theory IV | MATH4**1 | 20 |

**List B3**

| | | |
|---|---|---|
| Advanced Quantum Theory IV | MATH4061 | 20 |
| Algebraic Topology IV | MATH4161 | 20 |
| Riemannian Geometry IV | MATH4171 | 20 |
| Partial Differential Equations IV | MATH4041 | 20 |

* Available in 2005-2006 only.