Programme Regulations: 2025/26

**Programme Titles:**

**Degree of Bachelor of Science with Honours in Mathematics and Economics - UCAS Code: GL11**

**Degree of Bachelor of Science with Honours in Mathematics and Economics with Placement Year - Code: 1138U**

**Degree of Bachelor of Science with Honours Mathematics and Economics with International Study Year: Code 1802U**

**Degree of Bachelor of Science with Honours in Mathematics and Accounting - UCAS Code: NG41**

**Degree of Bachelor of Science with Honours in Mathematics and Accounting with Placement Year - Code: 1139U**

*Notes*

1. *These programme regulations should be read in conjunction with the University’s Taught Programme Regulations.*
2. *All optional modules are offered subject to the constraints of the timetable and to any restrictions on the number of students who may be taught on a particular module. Not all modules may be offered in all years and they are listed subject to availability.*
3. *Unless otherwise stated under ‘Type’, modules are not core.*
4. *A compulsory module is a module which a student is required to study.*
5. *A core module is a module which a student must pass, and in which a fail mark may not be compensated; such modules are designated by the board of studies as essential for progression to a further stage of the programme or for study in a further module.*
6. *All modules are delivered in Linear mode unless stated otherwise as Block, eLearning or distance learning.*
7. *Students are not recruited to 1138U/1139U. Rather a GL11/NG41 candidate may transfer to 1138U/1139U by the end of week 5 of Semester 2 of Stage 2, subject to the agreement of the Degree Programme Director.*
8. *Programme transfers for Student Visa students may be restricted. Please refer to the Visa Team for advice.*

# Stage 1

* + 1. All candidates shall take the following compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MAS1606 | Introductory Algebra | 20 | 20 | 0 | 4 | Core | M |
| MSP1612 | Introductory Calculus and Differential  Equations | 20 | 20 | 0 | 4 | Core | M |
| MSP1613 | Multivariable Calculus | 10 | 0 | 10 | 4 | Core | M |
| MAS1614 | Real Analysis | 10 | 0 | 10 | 4 | Core | M |
| MAS1616 | Introduction to Probability and Statistics | 20 | 0 | 20 | 4 | Core | S |

* + 1. GL11 candidates shall take the following compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ECO1100 | Economic Analysis | 30 | 15 | 15 | 4 | Core | E |
| ECO1118 | Economic Applications | 10 | 5 | 5 | 4 |  | E |

* + 1. NG41 candidates shall take the following compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ACC1010 | Introduction to Financial Accounting | 20 | 10 | 10 | 4 | Core |  |
| ACC1011 | Introduction to Management Accounting & Finance | 20 | 10 | 10 | 4 | Core |  |

# Stage 2

* + 1. All candidates shall select optional modules to a total credit value of 60. This must include

40 credits from either block (i) (the Pure Mathematics Pathway), block (ii) (the Applied Mathematics Pathway) or block (iii) (the Statistics Pathway).

1. Candidates may select 0, 20 or 40 credits from the following list. If only 20 credits are chosen, it must be MAS2701 and MAS2703. If 40 credits are chosen, they must include MAS2701 and MAS2703.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MAS2701 | Linear Algebra | 10 | 10 | 0 | 5 |  | M |
| MAS2702 | Complex Analysis | 10 | 10 | 0 | 5 |  | M |
| MAS2703 | Groups and Rings | 10 | 0 | 10 | 5 |  | M |
| MAS2713 | Curves and Surfaces | 10 | 0 | 10 | 6 |  | M |
| MAS2714 | Coding Theory | 10 | 0 | 10 | 6 |  | M |

1. Candidates may select 0, 20 or 40 credits from the following list. If only 20 credits are chosen, it must be MSP2801 and MSP2802. If 40 credits are chosen, they must include MSP2801 and MSP2802.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MSP2020 | Principles of Quantum Mechanics | 10 | 0 | 10 | 5 |  | M |
| MSP2801 | Vector Calculus | 10 | 10 | 0 | 5 |  | M |
| MSP2802 | Differential Equations,  Transforms and Waves | 10 | 10 | 0 | 5 |  | M |
| MSP2803 | Fluid Dynamics I | 10 | 0 | 10 | 5 |  | M |
| MAS2806 | Numerical Methods with Python | 10 | 0 | 10 | 5 |  | M |

1. Candidates may select 0, 20 or 40 credits from the following list. If only 20 credits are chosen, it must be MAS2901 and MAS2910. If 40 credits are chosen, they must include MAS2901 and MAS2910.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| DSC2001\* | Frontiers in Data Science | 10 | 0 | 10 | 5 |  | S |
| MAS2901 | Statistical Inference | 10 | 10 | 0 | 5 |  | S |
| MAS2907 | Stochastic Processes | 10 | 0 | 10 | 5 |  | S |
| MAS2908 | Data Visualisation | 10 | 0 | 10 | 5 |  | S |
| MAS2909 | Probability | 10 | 10 | 0 | 5 |  | S |
| MAS2910 | Regression | 10 | 0 | 10 | 5 |  | S |

(\*) Note: Approval of the Degree Programme Director must be given to select this module. There are limited places on this module and therefore there is no guarantee that students will be accepted.

* + 1. GL11 candidates shall take the following compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ECO2101 | Microeconomic Analysis | 30 | 15 | 15 | 5 | Core |  |
| ECO2102 | Macroeconomic Analysis | 30 | 15 | 15 | 5 | Core |  |

* + 1. NG41 candidates shall taking the following compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ACC2003 | Financial Control | 20 | 10 | 10 | 5 | Core |  |
| ACC2005 | Intermediate Financial Accounting | 20 | 10 | 10 | 5 | Core |  |

* + 1. NG41 candidates shall take one further module (20 credits) from the following list:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ACC2000 | Interpreting Company  Accounts | 20 | 10 | 10 | 5 |  |  |
| ACC2007 | Responsible Corporate Finance | 20 | 10 | 10 | 5 |  |  |

Note: ACC2007 is a pre-requisite for ACC3006 in Stage 3.

**3. Intercalating Year**

1. Career Placement (1138U 1139U)

On completion of Stage 2 and before entering Stage 3, candidates may as part of their studies for the degree spend a year in a placement with an approved organisation. Permission to undertake a placement is subject to the approval of the Degree Programme Director. Students who are required to re-sit their Stage 2 assessment must delay the start of their placement year until they have done so. Students who fail Stage 2 may not complete a placement year.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total  Credits | Credits  Sem 1 | Credits  Sem 2 | Level |
| NCL3000 | Careers Service Placement  Year Module | 120 | 60 | 60 | 6 |

1. International study Year (1802U)

On completion of Stage 2 and before entering Stage 3, candidates may as part of their studies for the degree spend a year abroad at an appropriate exchange partner institution. Permission to undertake a year abroad is subject to the approval of the Degree Programme Director. Students who are required to re-sit their Stage 2 assessment must delay the start of their placement until they have done so. Students who fail Stage 2 may not complete a year abroad.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Code* | *Descriptive title* | *Total*  *Credits* | *Credits*  *Sem 1* | *Credits*  *Sem 2* | *Credits*  *Sem 3* | *Level* | *Type* | *Mode* |
| *ISY3000* | *International Study Year* | *120* | *60* | *60* | *0* | *6* |  |  |

# Stage 3

* + 1. Pure Mathematics Pathway

1. Candidate studying the Pure Mathematics Pathway shall take the following compulsory module:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MAS3707 | Number Theory and  Cryptography | 20 | 10 | 10 | 6 |  |  |

1. Candidates studying the Pure Mathematics Pathway shall select 40 additional credits from the following list:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MAS2713 | Curves and Surfaces | 10 | 0 | 10 | 6 |  | M |
| MAS2714 | Coding Theory | 10 | 0 | 10 | 6 |  | M |
| MAS3701 | Group Theory | 10 | 10 | 0 | 6 |  | M |
| MAS3702 | Linear Analysis | 10 | 0 | 10 | 6 |  | M |
| MAS3705 | Matrix Analysis | 10 | 10 | 0 | 6 |  | M |
| MAS3706 | Metric Spaces and Topology | 10 | 0 | 10 | 6 |  | M |
| MAS3716 | Measure Theory | 10 | 0 | 10 | 6 |  | M |

*Note: With the permission of the Degree Programme Director, candidates may replace up to 20 credits of the optional modules above with alternative optional Stage 3 MAS modules in September, if the timetable allows (and if they have taken the relevant pre-requisites).*

* + 1. Applied Mathematics Pathway

1. Candidates studying the Applied Mathematics Pathway shall take the following

compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MSP2815 | Mathematical Biology | 10 | 0 | 10 | 5 |  | M |
| MSP3801 | Methods for Differential  Equations | 10 | 10 | 0 | 6 |  | M |

(ii) Candidates studying the Applied Mathematics Pathway shall select 40 additional credits from the following list:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MSP3044 | Quantum Information | 10 | 10 | 0 | 6 |  | M |
| MSP3803 | Fluid Dynamics II | 10 | 10 | 0 | 6 |  | M |
| MSP3804 | Relativity and Fundamental Particles | 10 | 10 | 0 | 6 |  | M |
| MSP3808 | Hydrodynamic and Climate Instabilities | 10 | 10 | 0 | 6 |  | M |
| MSP3809 | Variational Methods &  Lagrangian Dynamics | 10 | 0 | 10 | 6 |  | M |

*Note: With the permission of the Degree Programme Director, candidates may replace up to 20 credits of the optional modules above with alternative optional Stage 3 MAS modules in September, if the timetable allows (and if they have taken the relevant pre-requisites).*

* + 1. Statistics Pathway

1. Candidates studying the Statistics Pathway shall take the following compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| MAS3923 | Time series | 10 | 0 | 10 | 6 |  | S |
| MAS3928 | Statistical Modelling | 10 | 10 | 0 | 6 |  | S |

(ii) Candidates studying the Statistics Pathway shall select 40 additional credits from the following list:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total  Credits | Credits  Sem 1 | Credits  Sem 2 | Level | Type | Subject |
| MAS3904 | Stochastic Financial Modelling | 10 | 0 | 10 | 6 |  | S |
| MAS3908 | Experimental Design | 10 | 0 | 10 | 6 |  | S |
| MAS3919 | Foundations of Machine Learning | 10 | 0 | 10 | 6 |  | S |
| MAS3921 | Extreme Value Theory | 10 | 0 | 10 | 6 |  | S |
| MAS3924 | Survival Analysis | 10 | 0 | 10 | 6 |  | S |
| MAS3925 | Statistical Genetics | 10 | 0 | 10 | 6 |  | S |
| MAS3927 | Mathematical Statistics | 10 | 10 | 0 | 6 |  | S |
| MAS3928 | Statistical Modelling | 10 | 10 | 0 | 6 |  | S |
| MAS3929 | Bayesian Statistics and Decision Theory | 10 | 10 | 0 | 6 |  | S |

*Note: With the permission of the Degree Programme Director, candidates may replace up to 20 credits of the optional modules above with alternative optional Stage 3 MAS modules in September, if the timetable allows (and if they have taken the relevant pre-requisites).*

*Optional modules will not necessarily be available in all combinations. In particular, we anticipate that only one module can be chosen from each of the following pairs of modules:*

*MAS3716 & MAS3921; MAS3702 & MAS3908; MSP2020 & MAS3925.*

(d) GL11/1138U Candidates

(i) GL11 /1138U candidates shall take the following compulsory module:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ECO3001 | Advanced Microeconomics | 20 | 10 | 10 | 6 |  | E |

(ii) GL11 candidates shall select 40 credits of optional modules from the following list:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ECO3002 | Advanced Macroeconomics | 20 | 10 | 10 | 6 |  | E |
| ECO3004 | Labour Economics |  |  |  |  |  |  |
| ECO3005 | Behavioural Economics and Experimental methods | 20 | 10 | 10 | 6 |  | E |
| ECO3006 | Economics of Banking | 10 | 0 | 10 | 6 |  | E |
| ECO3010 | Monetary Economics | 10 | 10 | 0 | 6 |  | E |
| ECO3014 | Public Economics | 20 | 20 | 0 | 6 |  | E |
| ECO3018 | Financial Economics | 10 | 0 | 10 | 6 |  | E |
| ECO3021 | Economics of Risk and Uncertainty | 10 | 10 | 0 | 6 |  | E |
| ECO3022 | Health Economics | 10 | 0 | 10 | 6 |  | E |
| ECO3026 | Industrial Economics and Policy | 20 | 10 | 10 | 6 |  | E |
| ECO3032 | Game Theory | 10 | 0 | 10 | 6 |  | E |
| ECO3033 | Development Economics | 20 | 10 | 10 | 6 |  | E |
| ECO3035 | Happiness Economics | 10 | 0 | 10 | 6 |  | E |
| ECO3040 | Development Economics | 10 | 10 | 0 | 6 |  | E |
| ECO3066 | Environmental Economics | 10 | 10 | 0 | 6 |  | E |

(e) NG41/1139U Candidates

(i) NG41 candidates shall take the following compulsory modules:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ACC3001 | Advanced Financial Accounting and Reporting | 20 | 10 | 10 | 6 |  |  |
| ACC3002 | Management Accounting | 20 | 10 | 10 | 6 |  |  |

(ii) NG41 candidates shall take one further module (20 credits) from the following list:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| ACC3000 | Case Studies in Finance, Accounting & Business | 20 | 10 | 10 | 6 |  |  |
| ACC3006 | International Financial Management | 20 | 10 | 10 | 6 |  |  |

(e) With the approval of the Degree Programme Director, alternative optional modules to those listed above may be selected with a total value of not more than 20 credits. In particular, students may select:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Descriptive Title | Total Credits | Credits Sem 1 | Credits Sem 2 | Level | Type | Subject |
| NCL3007 | Career Development for  Final Year Students | 20 | 10 | 10 | 6 |  |  |

Note: There are limited places on this module and therefore there is no guarantee that students will be accepted.

# Assessment methods

Details of the assessment pattern for each module are explained in the module outline.

# Degree classification

Candidates will be assessed for degree classification on the basis of all the modules taken at Stages 2 and 3 with the weighting of the Stages being 1:2 for Stage 2 and Stage 3 respectively. The Placement Year will not be used in the classification of 1138U/1139U candidates.