FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS AND STATISTICS

MATHEMATICS, STATISTICS AND ECONOMICS

Bachelor of Science with Honours in Mathematics, Statistics and Economics
Bachelor of Science in Mathematics, Statistics and Economics
Diploma of Higher Education in Mathematical Studies
Certificate of Higher Education in Mathematical Studies

These regulations are to be read in conjunction with General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

Mode of Study

1. The programmes are available by both full-time and part time study. Students studying on a part-time basis will normally take modules amounting to 60 credits in each year.

Curriculum (Full-time study)

2. All students shall undertake an approved curriculum as follows:

3. First Year

All full-time students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
BF114	Introduction to Economics and Business Analysis	1	20
MM143	Mathematical Foundations	1	20
MM144	Calculus 1	1	20
MM145	Introduction to Geometry and Algebra	1	20
MM106	Essential Statistics	1	10
MM107	Data Analysis and Presentation	1	10
	Elective Module(s)		20

4. Second Year

All full-time students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
EC215	Intermediate Microeconomics	2	20

EC216	Intermediate Macroeconomics and Data Analysis	2	20
MM201	Linear Algebra and Differential Equations	2	20
MM202	Advanced Calculus	2	20
MM204	Probability and Statistical Inference	2	20
MM206	Mathematical and Statistical Computing	2	20

5. Third Year

All full-time students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
EC315	Topics in Microeconomics with Cross Section Econometrics	3	20
EC316	Topics in Macroeconomics with Time Series Econometrics	3	20
MM302	Differential Equations	3	20
MM304	Inference and Regression Modelling	3	20

Optional Modules

40 credits to be chosen by Honours students from Lists A and B or other modules approved by the Programme Director; and by other students from Lists A and B.

List A

Module Code	Module Title	Level	Credits
MM300	Complex Variables and Integral Transforms	3	20
MM301	Linear Algebra	3	20
MM306	Numerical Analysis 3	3	20
MM307	Stochastics and Financial Econometrics	3	20

List B

Modules in First and Second Year not previously taken or further Elective Modules (this applies to direct entry students and students who may have transferred from another degree programme and therefore have not completed all Year 1 and Year 2 modules).

6. Fourth Year

All full-time students shall undertake modules amounting to 120 credits as follows:

Compulsory Module

Module Code	Module Title	Level	Credits
MM460	Mathematics and Economics*	4	120

*MM460 Mathematics and Economics comprises:

- Either MM401 Communicating Mathematics and Statistics (20 credits) or
- EC419 Project BSc (Economics) (20 credits).
- Plus no fewer than 20 credits from Lists A and B and no fewer than 40 credits from List C or other modules approved by the Programme Director.

List A

Module Code	Module Title	Level	Credits
MM402	Modelling and Simulation with Applications to Financial Derivatives	4	20
MM404	Statistical Modelling and Analysis	4	20
MM407	Applied Statistics in Society	4	20
MM415	Medical Statistics	4	20

List B

Module Code	Module Title	Level	Credits
MM402	Modelling and Simulation with Applications to Financial Derivatives	4	20
MM406	Finite Element Methods for Boundary Value Problems and Approximation	4	20
MM408	Mathematical Biology and Marine Population Modelling	4	20
MM409	Mathematical Introduction to Networks	4	20

Not all optional modules on this list will be available in each academic year. Please check your programme handbook for confirmation of which optional modules will run.

List C

Module Code	Module Title	Level	Credits
EC412	Industrial Economics	4	20
EC413	Applied Economics	4	20
EC415	Behavioural Economics	4	20
EC416	Natural Resource and Environmental and Energy Economics	4	20
EC420	Labour Economics	4	20

EC421	Advanced Microeconomics	4	20
EC422	Advanced Macroeconomics	4	20

Progress

7. In order to progress to the second year of the **BSc Honours in Mathematics, Statistics and Economics programme** in addition to satisfying the requirements of the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level, a student must also gain a pass in the following modules:MM143Mathematical Foundations, MM144 Calculus 1 and BF114 Introduction to Economics and Business Analysis.

8. In order to progress to the second year of the **BSc in Mathematics, Statistics and Economics** programme in addition to satisfying the requirements of the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level, a student must also gain a pass in the following module: BF114 Introduction to Economics and Business Analysis.

9. In order to progress to the third year of the **BSc Honours in Mathematics, Statistics and Economics** programme in addition to satisfying the requirements of the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level, a student must also gain a pass in the following modules: MM201 Linear Algebra and Differential Equations, MM204 Probability and Statistical Inference EC215 Intermediate Microeconomics and EC216 Intermediate Macroeconomics and Data Analysis.

10. In order to progress to the third year of the **BSc in Mathematics, Statistics and Economics** programme in addition to satisfying the requirements of the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level, a student must also gain a pass in the following modules: EC215 Intermediate Microeconomics and EC216 Intermediate Macroeconomics and Data Analysis.

11. In order to progress to the fourth year of the **BSc Honours in Mathematics, Statistics and Economics** programme the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level shall apply with at least 120 credits at Level 3 including a pass in the following modules: EC315 Topics in Microeconomics with Cross Section Econometrics and EC316 Topics in Macroeconomics with Time Series Econometrics.

Progress (Part-time study)

12. See General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

Final Assessment and Classification

13. On successful completion of the fourth year, a candidate will be awarded 120 Level 4 credits under the module code MM460 Mathematics and Economics.

14. The final classification for the degree of BSc with Honours in Mathematics, Statistics and Economics will normally be based on the first assessed attempt at compulsory and specified optional modules at Levels 3 and 4 taken in the third and fourth years.

Award

15. **BSc with Honours**: In order to qualify for the award of the degree of BSc with Honours in Mathematics, Statistics and Economics, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

16. **BSc**: In order to qualify for the award of the degree of BSc in Mathematics, Statistics and Economics, the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level shall apply and must include BF114 Introduction to Economics and Business Analysis, EC215 Intermediate Microeconomics, EC216 Intermediate Macroeconomics and Data Analysis; EC315 Topics in Microeconomics with Cross Section Econometrics and EC316 Topics in Macroeconomics with Time Series Econometrics.

17. **Diploma of Higher Education**: In order to qualify for the award of a Diploma of Higher Education in Mathematical Studies, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

18. **Certificate of Higher Education**: In order to qualify for the award of a Certificate of Higher Education in Mathematical Studies, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.