FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS AND STATISTICS

MATHEMATICS, STATISTICS AND FINANCE

Bachelor of Science with Honours in Mathematics, Statistics and Finance
Bachelor of Science in Mathematics, Statistics and Finance
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 full-time study only.

Curriculum

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

3. First Year

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

Compulsory Modules

Module Code	Module Title	Level	Credits
BF123	Introduction to Finance and Financial 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 students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
AG215	Business Finance	2	20
AG217	Portfolio Management and Security 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 students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
AG312	Advanced Corporate Finance and Financial Markets	3	20
AG313	Treasury Management and Derivatives	3	20
MM302	Differential Equations	3	20
MM304	Inference and Regression Modelling	3	20

Optional Modules

40 credits chosen by Honours students from List A 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	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 students shall undertake modules amounting to 120 credits as follows:

Compulsory Module

Module Code	Module Title	Level	Credits
MM470	Mathematics and Finance*	4	120

*MM470 Mathematics and Finance comprises:

- Either MM401 Communicating Mathematics and Statistics (20 credits) plus 100 credits of optional modules with no fewer than 20 credits from each of Lists A and B and no fewer than 40 credits from List C or other modules as approved by the Programme Director.
  Or
- AG436 Finance Dissertation (40 credits); and plus 80 credits of optional modules with no fewer than 20 credits from each of Lists A, B and C or other modules as 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

List C

Module Code	Module Title	Level	Credits
AG428	Asset Pricing	4	20
AG429	Behavioural Finance	4	20
AG430	Corporate Financing	4	20
AG431	Corporate Investment	4	20
AG432	Financial Quantitative Methods	4	20

AG434	International Financial Management	4	20

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

Progress

7. In order to progress to the second year of the **BSc Honours in Mathematics, Statistics and Finance** 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: MM143 Mathematical Foundations, MM144Calculus 1 and BF123 Introduction to Finance and Financial Accounting.

8. In order to progress to the second year of the **BSc in Mathematics, Statistics and Finance** 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: BF123 Introduction to Finance and Financial Accounting.

9. In order to progress to the third year of the **BSc Honours in Mathematics, Statistics and Finance** 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, AG215 Business Finance and AG217 Portfolio Management and Security Analysis.

10. In order to progress to the third year of the **BSc in Mathematics, Statistics and Finance** 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: AG215 Business Finance and AG217 Portfolio Management and Security Analysis.

11. In order to progress to the fourth year of the **BSc Honours in Mathematics, Statistics and Finance** programme a candidate must have accumulated at least 120 credits at level 3 including a pass in the following modules: AG312 Advanced Corporate Finance and Financial Markets and AG313 Treasury Management and Derivatives.

Final Assessment and Classification

12. On successful completion of the fourth year, a candidate will be awarded 120 Level 4 credits under the module code MM470.

13. The final classification for the degree of BSc with Honours in Mathematics, Statistics and Finance 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

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

15. **BSc**: In order to qualify for the award of the degree of BSc in Mathematics, Statistics and Finance, the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level shall apply and must include BF123 Introduction to Finance and Financial Accounting, AG215 Business Finance,

AG217 Portfolio Management and Security Analysis, AG312 Advanced Corporate Finance and Financial Markets and AG313 Treasury Management and Derivatives.

16. **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.

17. **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.