

FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS AND STATISTICS

MATHEMATICS, STATISTICS AND BUSINESS ANALYSIS

Bachelor of Science with Honours in Mathematics, Statistics and Business Analysis

Bachelor of Science in Mathematics, Statistics and Business Analysis

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
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
BF114	Introduction to Economics and Business Analysis	1	20
	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
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
MS210	Analysing and Improving Operations	2	20
MS211	Managing Business Processes and Information Systems	2	20

5. Third Year

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

Compulsory Modules

Module Code	Module Title	Level	Credits
MM351	Applied Linear Algebra	3	20
MM352	Regression Modelling	3	20
MS311	Knowledge and Innovation Management	3	20
MS361	Understanding and Optimizing Business Systems	3	20

Optional Modules

40 credits of optional modules chosen from the table below or other modules approved by the Programme Director.

Module Code	Module Title	Level	Credits
MM306	Numerical Analysis	3	20
MM353	Partial Differential Equations	3	20
MM358	Statistical Inference	3	10
MM357	Experimental Design	3	10
MM354	Survey Design and Analysis	3	10
MM360	Stochastic Processes	3	10

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.

6. Fourth Year

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

Compulsory Module

Module Code	Module Title	Level	Credits
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MM481	Mathematics and Business Analysis*	4	120
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*MM481 Mathematics and Business Analysis comprises of

- 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
- MS424 Dissertation in Management Science (40 credits); 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

*Students seeking professional accreditation by the Royal Statistical Society must take MM407.

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
MS428	Business Analysis and Practice	4	20
MS422	Risk Analysis and Management	4	20
MS426	Contemporary Business Technology	4	20
MS429	Project Management	4	20
MS430	Programming for Business Analytics	4	20
MS431	AI for Managers	4	20

MS432	Systems Thinking with Systems Dynamics	4	20
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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 Business Analysis** 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 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 Business Analysis** 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 Business Analysis** 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 and MS211 Managing Business Processes and Information Systems.
10. In order to progress to the third year of the **BSc in Mathematics, Statistics and Business Analysis** 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: MS211 Managing Business Processes and Information Systems and MS210 Analysing and Improving Operations.
11. In order to progress to the fourth year of the **BSc Honours in Mathematics, Statistics and Business Analysis** 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: MS361 Understanding and Optimizing Business Systems and MS311 Knowledge and Innovation Management.

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 MM481 Mathematics and Business Analysis.
13. The final classification for the degree of BSc with Honours in Mathematics, Statistics and Business Analysis 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 Business Analysis, 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 Business Analysis, 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, MS211 Managing Business Processes and Information Systems, MS210 Analysing and Improving Operations, MS361 Understanding and Optimizing Business Systems and MS311 Knowledge and Innovation Management.
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](#).