

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
MM101	Introduction to Calculus	1	20
MM102	Applications of Calculus	1	20
MM103	Geometry and Algebra with Applications	1	20
MM104	Statistics and Data Presentation	1	20
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
MM302	Differential Equations	3	20
MM304	Inference and Regression Modelling	3	20
MS311	Knowledge and Innovation Management	3	20
MS361	Understanding and Optimizing Business Systems	3	20

Optional Modules

40 credits chosen by Honours students from List A or another module 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.

6. Fourth Year

All students shall undertake modules amounting to 120 credits as follows

Compulsory Module

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

*MM481 Mathematics and Business Analysis comprises either MM401 Communicating Mathematics and Statistics (20 credits) or 48490 Project (BSc Management Science) (20 credits) or MS424 Dissertation in Management Science (40 credits); and optional modules chosen from Lists A, B and C so that the curriculum contains at least 40 credits of Business subjects, with no fewer than 20 credits from Lists A, B and C or another module 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
MM403	Applicable Analysis 3	4	20
MM405	Fluids and Waves	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
MM411	Elasticity and Complex Materials	4	20
MM412	Optimisation: Theory and Practice	4	20
MM413	Statistical Mechanics	4	20
MM414	Dynamical Models in Epidemiology	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
MS415	Business Process Integration with ERP	4	20

MS416	Business Analytics Using Data Mining	4	20
MS420	Management Science 4	4	20
MS422	Risk Analysis and Management	4	20
MS426	Contemporary Business Technology	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.

Progress

7. In order to progress to the second year of the Honours 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: MM101 Introduction to Calculus, MM102 Applications of Calculus and BF114 Introduction to Economics and Business Analysis.
8. In order to progress to the second year of the Bachelors 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 Honours 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 Bachelors 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 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.](#)