

Programme Specification

MSc Applied Statistics

1. Programme title	MSc Applied Statistics
2. Awarding institution	Middlesex University
3. Teaching institution	Middlesex University
4. Details of accreditation by professional/statutory/regulatory body	
5. Final qualification	MSc Applied Statistics / PgDip Applied Statistics
6. Year of validation Year of amendment	
7. Language of study	English
8. Mode of study	Full time

9. Criteria for admission to the programme

An Honours degree normally classified 2.2 or above, or equivalent, with a significant mathematical element in its curriculum.

Successful applicants must have competence in English language. For international applicants whose first language is not English the requirement is that they have IELTS

6.5 (with minimum 6.0 in all four components) or TOEFL internet based 87 (with at least

21 in listening & writing, 22 in speaking and 23 in reading).

10. Aims of the programme

The programme aims to:

- develop awareness and understanding, at an advanced level, of mathematical and statistical concepts and techniques in order to apply them to cross-sectional, time-series, longitudinal, multi-level, spatial and event-oriented data sets;
- develop an advanced knowledge of probability, distributions, inference and stochastic processes, statistical modelling and analysis in order to solve problems in engineering, computing and communications

sciences, natural and environmental sciences, health and social sciences, economics and finance;

- develop the ability to work independently and as part of a team on highly technical problems requiring statistical techniques and to communicate the results to a wide range of audiences.

11. Programme outcomes

A. Knowledge and understanding

On completion of this programme the successful student will have knowledge and understanding of :

- A1 advanced techniques in statistics;
- A2 various types of data;
- A3 theories and methods for modelling and analysing complex data sets and their relative merits;
- A4 core concepts and theories of probability and stochastic processes;
- A5 core concepts and theories of advanced techniques inference;
- A6 research methods and techniques.

Teaching/learning methods

Students gain knowledge and understanding through a combination of lectures, directed reading and guided independent study, including use of online resources, case studies, guest/visiting speakers, group work, coursework, critical reflection, facilitated discussion, workshops and the project.

Assessment methods Students' knowledge and understanding are assessed by individual and group coursework, seen exams and tests, and the project.

B. Cognitive (thinking) skills

On completion of this programme the successful student will be able to:

- B1 explain and evaluate methods for analysing and modelling complex data sets;
- B2 explain and critically compare competing methods for modelling data;
- B3 use advanced methods of stochastic analysis and applied probability to formulate and solve practical problems;
- B4 identify suitable techniques and justify their appropriateness to solve technical applied problems;
- B5 effectively organise, structure and produce a project at an advanced level.

Teaching/learning methods

Students learn cognitive skills through seminar discussion and debate, and independent study including the use of online resources supported by guidance from tutors.

Assessment methods Students' cognitive skills are assessed by individual and group coursework, and by the project.

C. Practical skills

On completion of the programme the successful student will be able to:

C1 obtain and critique data from a range of sources including electronic databases;
C2 analyse data using both programming and computer packages;
C3 use a variety of advanced statistical techniques to model data;
C4 formulate and solve practical problems; C5 apply advanced statistical theory to practice in a variety of settings.

Teaching/learning methods

Students learn practical skills through workshops, reinforced and extended through seminar presentations and discussion, individual and group work, and independent study.

Assessment methods Students' practical skills are assessed by individual and group coursework, and by the project.

12. Programme structure (levels, modules, credits and progression requirements)

12.1 Overall structure of the programme

Term 1	MSO4314 Statistical Modelling	MSO4311 Probability And Stochastic processes	MSO4312 Inference Theory	MSO4313 Descriptive statistical analysis
	[30]	[30]	MSO4351 Time series and forecasting	Option
Term 2				
Term 3	MSO4991 Project [60]			
Options:	MSO4315 MSO4345	Survival Analysis Data Mining		

12.2 Levels and modules

Starting in academic year 2010/11 the University is changing the way it references modules to state the level of study in which these are delivered. This is to comply with the national Framework for Higher Education Qualifications. This implementation will be a gradual process whilst records are updated. Therefore the old coding is bracketed below.

Level 7 (4)

COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
Students must take all of the following: MSO4311 MSO4312 MSO4313 MSO4314 MSO4351 MSO4991	Students must also choose one from the following: MSO4315 MSO4345	Students must pass 120 credits to progress to the project

12.3 Non-compensatable modules (note statement in 12.2 regarding FHEQ levels)

Module Level	Module Code
N/A	

13. Curriculum map

See attached.

14. Information about assessment regulations

Middlesex University Assessment Regulations apply to this programme, without exception.

15. Placement opportunities, requirements and support (if applicable)

N/A

16. Future Careers (if applicable)

Graduates of the programme will be equipped as a statistician and a data analyst for careers in engineering, computing and communications sciences, natural and environmental sciences, health and social sciences, economics and finance

17. Particular support for learning (if applicable)

- Specialise software and database resources
- Induction and orientation programme
- English Language Support
- Access to student counsellors
- Virtual Learning Environment

18. JACS Code (or other relevant coding system)

G310

19. Relevant QAA subject benchmark group(s)

Mathematics, Statistics and Operational Research

20. Reference Points

- QAA Guidelines for programme specifications
- QAA Qualifications Framework
- Middlesex University Regulations
- Middlesex University Learning Framework – Programme Design Guidance, 2012

21. Other information

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the rest of your programme handbook and the university regulations

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Programme outcomes															
A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5
Highest level achieved by all graduates															
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7

Module Title	Module Code	Programme Outcomes																
		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	
Core																		
Probability & Statistics	MS04311																	
2																		
Discrete Mathematics	MS04312																	
4																		
Linear Algebra	MS04351																	
1																		
5.11.11 Quality & S.	MS04315																	
Data Analysis	MS04345																	

