Programme Specification

A statement of the knowledge, understanding and skills that underpin a taught programme of study leading to an award from The University of Sheffield

1	**Programme Title**	Statistics
2	**Programme Code**	MASU34
3	**JACS Code**	G300
4	**Level of Study**	Graduate
5a	**Final Qualification**	Graduate Certificate
5b	**Position in the QAA Framework for Higher Education Qualifications**	Honours
6a	**Intermediate Qualification(s)**	None
6b	**Position in the QAA Framework for Higher Education Qualifications**	Not applicable
7	**Teaching Institution** (if not Sheffield)	Not applicable
8	**Faculty**	Science
9	**Department**	School of Mathematics and Statistics
10	**Other Department(s) involved in teaching the programme**	None
11	**Mode(s) of Attendance**	Distance learning
12	**Duration of the Programme**	9 months (1 undergraduate year) Part-time
13	**Accrediting Professional or Statutory Body**	Not applicable
14	**Date of production/revision**	December 2006, updated February 2009, March 2012, March 2016

15. Background to the programme and subject area

Great Britain has long been recognized as having an especially admirable statistical tradition, in which empirical and theoretical work continually meet and strengthen each other. The School is firmly in this tradition, both in its teaching and in its research.

The Graduate Certificate gives training at the undergraduate honours level in theoretical and applied statistics, and in the mathematical and probabilistic concepts and methods that underpin statistics. It is taught wholly by Distance Learning, and is aimed at UK or overseas graduates who wish to develop their statistical knowledge, but lack the appropriate mathematical and statistical background for direct entry to a postgraduate qualification. It is particularly suited to applicants who wish to undertake the School's MSc in Statistics, which is also available via distance learning (2-4 years, part time); places on the MSc may be offered conditionally on sufficiently high grades on the Graduate Certificate.

The MSc in Statistics provides both a practically-based professional statistical training and a foundation for those wishing to pursue further research. It is available via residential study (1 year full-time) as well as distance learning (as above). It gives a firm grounding in practical statistical methodology and computation, as well as developing many of the personal skills in demand from employers. It is a general purpose course, which provides an excellent foundation for a career as a Statistician or for a PhD in Statistics. It is accredited by the Royal Statistical Society, and has contacts with employers through the MSc Advisory Board, employer open days, career presentations and other events.

Further information is available from the School's web site: http://www.sheffield.ac.uk/maths/prospectivepg/graduate-certificate

16. Programme aims

In the context of this programme the School aims:

(a) to provide high quality training in statistics and in the mathematical and probabilistic ideas that underpin it;

(b) to prepare students for further statistical training at masters level;

(c) to familiarize students with the distance learning mode of study;

(d) to provide an intellectual environment conducive to learning;

(e) to provide students with assessments of their achievements and to identify and support academic excellence.

17. Programme learning outcomes

Knowledge and understanding: a graduate should:	
K1	have acquired a working knowledge and understanding of calculus and linear algebra;
K2	have acquired a working knowledge and understanding of probability and distribution theory;
K3	have acquired a working knowledge and understanding of basic statistical theory and methods.

Knowledge-based skills: a graduate should:	
SK1	be able to formulate simple problems in statistical terms and analyse data using standard techniques;
SK2	show judgement in the selection and application of mathematical tools and techniques.

Skills and other attributes: a graduate should:	
S1	have acquired skill in calculation and manipulation;
S2	have developed the skills to model and analyse physical or practical problems;
S3	be able to present arguments and conclusions effectively and accurately;
S4	have facility in using a major statistical computer package, and general computing skills.

18. Teaching, learning and assessment

Development of the learning outcomes is promoted through the following teaching and learning methods:

The main teaching and learning is through: directed reading of set texts, with guidance and supplementary material provided through My Online Learning Environment (MOLE); practice through weekly tasks and self-marked exercises; feedback on written assignments; and discussion (with staff and other students) on MOLE discussion boards. These methods cover **all** of the knowledge, understanding and skills listed in Q.17, although the emphasis on different methods varies between outcomes. In addition, a series of interactive computer demonstrations and simulations provided to the students are important in developing knowledge and skills in probability and statistics (K2, K3, SK1, S2) and general computing skills (S4).

Opportunities to demonstrate achievement of the learning outcomes are provided through the following assessment methods:

Assessment is by a combination of coursework (20%) and unseen examinations (80%).

The coursework will be based on 15 equally weighted assignments (5 per module, preceded by a 'mock' assignment in each module), spread over the duration of the programme, submitted electronically or by post.

There will be 3 formal, invigilated, unseen examinations (1 per module), taking place in a single week during the usual undergraduate summer examination period. These will be 'restricted open book' examinations. Normally, examinations will take place in Sheffield, and be followed by a visit to the department to meet the MSc admissions tutor, discuss progression to the MSc, and meet other staff informally. Exceptionally, the Department may give permission (and make arrangements) for examinations to be held elsewhere e.g. at recognised British Council examination centres.

19. Reference points

The learning outcomes have been developed to reflect the following points of reference:

Subject Benchmark Statements
http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Subject-benchmark-statements.aspx

University Strategic Plan
http://www.sheffield.ac.uk/strategicplan

Learning and Teaching Strategy (2011-16)
http://www.shef.ac.uk/lets/staff/lts

The QAA Mathematics, Statistics and Operational Research benchmark document at

http://www.qaa.ac.uk/en/Publications/Documents/SBS-Mathematics-15.pdf

The University of Sheffield Students' Charter at www.shef.ac.uk/ssid/ourcommitment/charter

The University's coat of arms, containing the inscriptions *Disce Doce* (Learn and Teach) and *Rerum Cognoscere Causas* (To Discover the Causes of Things; from Virgil's *Georgics* II, 490), at http://www.sheffield.ac.uk/about/arms

The entrance requirements of the Department's MSc in Statistics.

20. Programme structure and regulations

The programme consists of three equally weighted modules, MAS5050 Mathematical Methods for Statistics, MAS5051 Probability and Probability Distributions, and MAS5052 Basic Statistics, each running over the whole (undergraduate) academic year.

Detailed information about the structure of programmes, regulations concerning assessment and progression and descriptions of individual modules are published in the University Calendar available on-line at http://www.sheffield.ac.uk/calendar

21. Student development over the course of study

Since this a one-year programme, with all modules compulsory and running for the whole year, student development over the programme is primarily seen within the structure of the modules. Overall, students with little or no formal mathematical and statistical training, and typically no experience of distance learning, should develop to the point that they are well-equipped to take the Sheffield MSc in Statistics by distance learning.

22. Criteria for admission to the programme

The minimum entrance requirement for the course is:

either a Second Class Honours Degree or above, from a UK university, in a quantitative discipline other than Mathematics or Statistics; or any comparable qualification of equivalent standard.

In addition, students whose first language is not English will need to demonstrate English language proficiency (even if their education has been chiefly in English). Our usual minimum requirements are: TOEFL 232 (computer-based) or 575 (paper-based), IELTS 6.5, or equivalent.

23. Additional information

Further information about the Department of Probability and Statistics is available from http://www.shef.ac.uk/pas/ and details of the MSc in Statistics are at http://www.shef.ac.uk/pas/prospective/postgraduate/taught

The web page for SoMaS is at http://www.shef.ac.uk/maths

This specification represents a concise statement about the main features of the programme and should be considered alongside other sources of information provided by the teaching department(s) and the University. In addition to programme specific information, further information about studying at The University of Sheffield can be accessed via our Student Services web site at www.shef.ac.uk/ssid/