

FHS Mathematics and Statistics Part B 2010

First Notice to Candidates

This notice contains information about:

1. Standardised marks (USMs) and classification
2. The format of papers in Part B
3. The use of calculators and statistical tables.

A Second Notice will be sent out later with information about practical arrangements in the Examination Schools, including examination numbers, handing in of scripts and so on.

(A Notice concerning coursework submission, extended essay submission and penalties for late submission has already been issued separately and is available at <http://www.maths.ox.ac.uk/notices/undergrad/notices-part-b-candidates>.)

The timetable for the examination will be set by the Examination Schools and they will send it to you.

The full regulations for the Part B examination are contained in the Examination Regulations (the Grey Book).

Full particulars about the syllabus and other information can be found in the Mathematics and Statistics Undergraduate Handbook and Supplements (available at http://www.stats.ox.ac.uk/current_students/bammath/course_handbooks).

The examining conventions for Mathematics and Statistics (which are summarised in this notice) are given in full in the Examination Conventions (available at http://www.stats.ox.ac.uk/current_students/bammath/examinations).

Neil Laws
Chairman of Examiners
Department of Statistics
11 March 2010

Standardised marks

The University instructs all examiners to adopt a uniform system of reporting marks. This means that each candidate will receive a numerical mark (USM) on each paper in the range 0-100 such that

- a First Class performance (on that paper) is indicated by a mark of 70 or over
- an Upper Second Class performance (on that paper) is indicated by a mark of 60 to 69
- a Lower Second Class performance (on that paper) is indicated by a mark of 50 to 59
- a Third Class performance (on that paper) is indicated by a mark of 40 to 49
- a Pass performance (on that paper) is indicated by a mark of 30 to 39
- a Fail performance (on that paper) is indicated by a mark below 30.

In order to arrive at such standardized marks for each paper, the Examiners will mark and assess papers in the way described below.

The Examiners in Part B will assign university standardised marks (USMs) for whole unit and half unit papers taken in Part B and they may recalibrate the raw marks to arrive at the USMs. The papers are designed so that the raw marks on a whole unit sum to 100 and the raw marks on a half unit sum to 50. The USMs on both whole units and half units will be in the range 0-100. However, the Examiners will take into account the relative difficulty of papers when assigning USMs; in order to achieve this, the Examiners may use information on candidates' performances on the Part A examination when recalibrating the raw marks. They may also use other statistics to check that the USMs assigned fairly reflect the students' performances on a paper.

Classification

All candidates in the 3-year degree and the 4-year degree will receive a classification at the end of the third year based on USMs from Parts A and B as follows.

The Part A USMs are given a weighting of 2, and the Part B USMs are given a weighting of 3 for a whole unit and 1.5 for a half unit. The weighted average of these USMs, AvUSM, is calculated and rounded up to a whole number. Classification depends on both AvUSM and on a *Strong Paper Rule*.

To satisfy the n th class *Strong Paper Rule* a candidate must have:

- at least 3 papers from Parts A and B with a USM of the n th class standard or above
- and at least one of these papers must be in Part B.

For example, to satisfy the First Class strong paper rule a candidate needs at least 3 of their whole unit paper USMs to be first class marks, with at least 1 first class whole unit at Part B. A half unit paper counts as half a paper when determining the number of strong papers.

Classifications are determined as follows:

- First Class: AvUSM ≥ 70 and the first class strong paper rule is satisfied.
- Upper Second Class: EITHER AvUSM ≥ 70 and the first class strong paper rule is not satisfied
OR $60 \leq \text{AvUSM} < 70$ and the upper second strong paper rule is satisfied.

- Lower Second Class: EITHER $60 \leq \text{AvUSM} < 70$ and the upper second strong paper rule is not satisfied
OR $50 \leq \text{AvUSM} < 60$ and the lower second strong paper rule is satisfied.
- Third Class: EITHER $40 \leq \text{AvUSM} < 50$
OR $50 \leq \text{AvUSM} < 60$ and the lower second strong paper rule is not satisfied.
- Pass: $30 \leq \text{AvUSM} < 40$.
- Fail: $\text{AvUSM} < 30$.

The Examiners aim to ensure that all papers are fairly and equally rewarded, but if in any case a paper appears to have been problematical then the Examiners, in their classification, will give special consideration to candidates taking that paper. The Examiners will take particular care in assigning classes to those candidates whose marks fall near each class boundary.

All candidates who wish to leave at the end of their third year and who satisfy the Examiners may supplicate for a classified BA in Mathematics and Statistics at the end of Part B based on the above classification.

In order to proceed to Part C, a candidate must have achieved at least Lower Second Class Honours in the classification at the end of Part B.

A candidate who starts Part C, but who decides not to complete the Part C examinations, may supplicate for a BA with the classification as awarded at the end of Part B based on Parts A and B.

Candidates who proceed to Part C will be classified for a second time at the MMath level. Successful candidates at Part C will thus be able to supplicate for an MMath degree with a double classification: one for Parts A and B, and one for Part C.

Format of examination papers

Statistics papers

BS1 Applied Statistics (whole unit)

This is a 2 hour paper, consisting of 3 questions on BS1a and 2 questions on BS1b. Candidates may hand in as many answers as they wish: the best 2 answers on BS1a plus the best answer on BS1b will count for a candidate's total mark. Each question is marked out of 22 and the separate compulsory assessed practical component is marked out of 34.

BS2a Foundations of Statistical Inference (half unit)

This is a 1½ hour paper and has 3 questions. Each question is marked out of 25. Candidates may hand in as many answers as they wish: the best 2 answers will count for a candidate's total mark.

BS3 Stochastic Modelling (whole unit)

This is a 3 hour paper, consisting of 3 questions on BS3a and 3 questions on BS3b. Each question is marked out of 25. Candidates may hand in as many answers as they wish: the best 2 answers on BS3a plus the best 2 answers on BS3b will count for a candidate's total mark.

BS3a Applied Probability (half unit)

The Michaelmas Term half of BS3 is available as the half unit BS3a (3 questions). The half unit paper lasts for 1½ hours. Each question is marked out of 25. Candidates may hand in as many answers as they wish: the best 2 answers will count for a candidate's total mark.

BS4 Actuarial Science (whole unit)

This is a 3 hour paper, consisting of 3 questions on BS4a and 3 questions on BS4b. Each question is marked out of 25. Candidates may hand in as many answers as they wish: the best 2 answers on BS4a plus the best 2 answers on BS4b will count for a candidate's total mark.

Mathematics papers

Mathematics papers B1-B10, B21

These are whole unit papers, and each contains two sections. The first section contains three questions on the course given in Michaelmas Term and the second section contains three questions on the course given in Hilary Term. In most cases half unit papers are available, in which one of the two courses comprising a whole unit is examined; each such paper contains three questions. Each question is marked out of 25. A whole unit paper lasts for 3 hours, and the rubric states "You may submit answers to as many questions as you wish: the best two from each section will count for the total mark". A half unit paper lasts for 1 1/2 hours, and the rubric states "You may submit answers to as many questions as you wish: the best two will count for the total mark".

Mathematics paper B11a

This is a half unit paper, containing three questions. Each question is marked out of 25. The paper lasts for 1 1/2 hours, and the rubric is as described above for Mathematics half unit papers.

Mathematics papers B7.1a/C7.1b and B7.2a/C7.2b

These are both whole unit papers, each lasting three hours, and containing 3 questions for each of the two half units. The rubric is as described above for the whole unit papers. USMs on C7.1b and C7.2b are assigned by Part C Examiners. B7.1a and B7.2a can be taken as half unit papers, each lasting 1 1/2 hours and containing three questions. The rubric is as described above for the half unit papers. Note that neither C7.1b nor C7.2b can be taken as a half unit.

Mathematics papers C3.1a, C3.2, C3.2a, C3.2b, C5.1a

C3.2 is a whole unit paper, lasting 3 hours and containing three questions for each of the two half units C3.2a and C3.2b. You may attempt as many questions as you wish but only your two best answers from each section of the paper will count. C3.1a, C3.2a, C3.2b and C5.1a, are half unit papers, each lasts 1 1/2 hours and contains three questions. You may attempt as many questions as you wish but only your two best answers will count. USMs on these papers will be assigned by Part C Examiners.

Late submission or Failure to submit coursework

For the courses below where coursework is a part of the assessment, candidates are asked to refer to the separate Notice regarding the details governing late submission or failure to submit coursework.

BE Extended Essay in Mathematics (whole unit)

USM marks will be assigned to Extended Essays with the same meaning as regards class boundaries as in the Mathematics and Statistics papers and are assessed independently by two assessors appointed by the Examiners. In arriving at these marks, the relative weights attached to content, mathematics and presentation will be 1/4, 1/2 and 1/4, respectively.

The attention of candidates is drawn to the requirement to submit their own original work and to complete a **declaration of authorship** when submitting their essays. Passages quoted or closely paraphrased from another person's work must be identified as quotations or paraphrases, and the source of the quoted or paraphrased material must be clearly acknowledged. Failure to set a high standard in this respect could lead to a charge of plagiarism, with serious disciplinary consequences. Equally, if a student summarises another person's ideas, judgements, figures,

software or diagrams, a reference to that person or the source should be made in the text and the source included in the bibliography.

N1 Undergraduate Ambassadors' Scheme (half unit)

Candidates are assessed on their journal of activities, oral presentation, course report and project, teacher report. The weightings for these four components are 20%, 30%, 35%, 15% respectively.

Calculators and Statistical tables

For the papers BS1, BS2a, BS3, BS3a, BS4, basic scientific calculators which have features such as exp and log, but which are NOT programmable, will be allowed. For these papers, any of the following will be permitted:

Casio fx-82, fx-83 (with any suffix, such as ES, MS), fx-85 (with any suffix, such as ES, MS), fx_992 S

Hewlett Packard hp 9s, hp 10s, hp 30s

Sharp EL-530 LB, EL-520, EL-531 (with any suffix)

Texas Instruments TI 30X (and any suffix), TI 36X (and any suffix).

Candidates should note that no calculators will be made available in the examination room.

New Cambridge Elementary Statistical Tables will be provided for use with papers BS1, BS2a, BS3, BS3a and BS4. These tables will be available for inspection at the Department of Statistics between 9am and 12 noon on any weekday in Week 4 of Trinity Term.