

FHS Mathematics and Statistics

Examination Conventions

Part A

Standardized marks

The University wishes all examiners to adopt a uniform system of reporting marks. This means that each candidate will receive numerical marks in the range 1-100, such that

- a First Class performance is indicated by a mark of 70 to 100;
- an Upper Second Class performance is indicated by a mark of 60 to 69;
- a Lower Second Class performance is indicated by a mark of 50 to 59;
- a Third Class performance is indicated by a mark of 40 to 49;
- a Pass performance is indicated by a mark of 30 to 39;
- a performance at the level of a Fail is indicated by mark of 0 to 29.

There are four papers in Part A, all of 3 hours. In the order in which they will be taken, these are AC1, AC2, AS1 and AS2. At the end of the Part A examination, a candidate will be awarded four University standardised marks (USMs) for their performance in Part A. These will be awarded for a candidate's performance in:

- (i) AC1;
- (ii) AC2;
- (iii) Probability and Statistics;
- (iv) Options.

In order to arrive at such USMs, the examiners will mark and assess papers in the way described below.

Papers in Part A

Questions on AC1 and AS1 are shorter and will be marked out of 10, while questions on AC2 and AS2 are longer and will be marked out of 25.

There will be 9 questions on paper AC1 and candidates should attempt them all. There will be 9 questions on paper AC2 and candidates may hand in answers to at most 5, from which the best 4 answers will be counted.

There will be 25 questions on paper AS1, 3 on Probability, 3 on Statistics, and otherwise 1 for each 8-lecture course and 2 for each 16-lecture course. Candidates may hand in answers to at most 10 questions, at least 5 of which should be on Probability and Statistics, and at least 4 or which should be on Options. The best 5 answers on Probability and Statistics will be counted towards USM (iii), and the best 4 answers on Options will be counted towards USM (iv).

There will be 23 questions on paper AS2, 1 for each 8-lecture course and 2 for each 16-lecture course. Candidates may hand in answers to at most 5 questions, at least 2 of which should be on Probability and Statistics. The best 2 answers on Probability and Statistics will be counted towards USM (iii) and the best 2 other answers (which

may include further answers on Probability and Statistics) will be counted towards USM (iv). These details are repeated on the individual examination papers.

Marking of Papers

Mark schemes for questions out of 10 will aim to ensure that the following qualitative criteria hold:

9-10 marks: a completely or almost completely correct answer, showing good understanding of the concepts and skill in carrying through arguments and calculations; minor slips or omissions only.

5-8 marks: a good though not complete answer, showing understanding of the concepts and competence in handling the arguments and calculations.

Mark schemes for questions out of 25 will aim to ensure that the following qualitative criteria hold:

20-25 marks: a completely or almost completely correct answer, showing excellent understanding of the concepts and skill in carrying through arguments and/or calculations; minor slips or omissions only.

13-19 marks: a good though not complete answer, showing understanding of the concepts and competence in handling the arguments and/or calculations. In this range, an answer might consist of an excellent answer to a substantial part of the question, or a good answer to the whole question which nevertheless shows some flaws in calculation or in understanding or in both.

This should be regarded only as a guide, conveying the intention of the examiners.

USMs

At the end of the Part A examination, a candidate will be awarded a University standardised mark (USM) on each of (i)-(iv), as above. The Examiners will recalibrate the raw marks to arrive at the USMs reported to candidates. In arriving at this recalibration, the examiners will principally take in to account the total sum over all four papers of the marks for each question, subject to the rules above on numbers of questions answered.

The examiners aim to ensure that all papers and all subjects within a papers are fairly and equally rewarded, but if in any case a paper, or subject within a paper, appears to have been problematical, then the examiners may take account of this in calculating USMs.

The USMs awarded to a candidate in Part A will be carried forward into the final classification.

Part A may be sat only once.

Part B

Standardised Marks

The University wishes all examiners to adopt a uniform system of reporting marks. This means that each candidate will receive numerical marks in the range 1-100, such that

- a First Class performance is indicated by a mark of 70 to 100;
- an Upper Second Class performance is indicated by a mark of 60 to 69;
- a Lower Second Class performance is indicated by a mark of 50 to 59;
- a Third Class performance is indicated by a mark of 40 to 49;
- a Pass performance is indicated by a mark of 30 to 39;
- a performance at the level of a Fail is indicated by mark of 0 to 29.

In order to arrive at such University Standardised Marks (USMs), the examiners will mark and assess papers in the way described below.

Marking of papers

The Board of Examiners in Part B will assign USMs for full unit and half unit papers taken in Part B and they may recalibrate the raw marks to arrive at USMs reported to candidates. The papers are designed so that the raw marks on a full unit sum to 100 and the raw marks on a half unit sum to 50. The USMs on both full units and half units will be out of 100. However, Examiners will take into account the relative difficulty of papers when assigning USMs. In order to achieve this, Examiners may use information on candidates' performances in 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.

In order to ensure fair treatment, Examiners may exercise individual consideration in assigning USMs for candidates whose marks lie outside the standard pattern, or when assigning USMs to papers where the number of candidates involved is small or untypical.

Classification

All successful candidates will be awarded a classification at the end of three years after the Part B examination. Candidates leaving at this stage who satisfy the Examiners will be awarded a classified BA in Mathematics and Statistics. The USMs awarded to a candidate for papers in Part B will be aggregated with the USMs from Part A to arrive at the classification.

The Part A University Standardised Marks are given a weighting of 2, and the Part B USMs are given a weighting of 3 for a full unit and 1.5 for a half unit. The classification will flow from an average of these weighted USMs. Borderlines are determined by the University standardised scale. The formulae for classification are as follows:

For examination in TT 2007

First Class	$A_v USM \geq 70$
Upper Second Class	$70 > A_v USM \geq 60$
Lower Second Class	$60 > A_v USM \geq 50$
Third Class	$50 > A_v USM \geq 40$
Pass	$40 > A_v USM \geq 30$
Fail	$A_v USM < 30$.

For examination from TT 2008

First Class	$A_v USM \geq 70$ with not more than 2 weak papers (USM<50)
Upper Second Class	$A_v USM \geq 70$ with more than 2 weak papers (USM<50) or $70 > A_v USM \geq 60$ with not more than 2 very weak papers (USM<40)
Lower Second Class	$70 > A_v USM \geq 60$ with more than 2 very weak papers (USM<40) or $60 > A_v USM \geq 50$
Third Class	$50 > A_v USM \geq 40$
Pass	$40 > A_v USM \geq 30$
Fail	$A_v USM < 30$.

Note half unit papers count as a half paper when determining the average USM or determining the number of weak or very weak papers.

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.

Qualitative Descriptors of Classes: BA in Mathematics and Statistics

<i>Class I</i>	The candidate shows excellent problem-solving skills and excellent knowledge of the material, and is able to use that knowledge in unfamiliar contexts.
<i>Class Iii</i>	The candidate shows good problem-solving skills and good knowledge of much of the material.
<i>Class Iiii</i>	The candidate shows adequate basic problem-solving skills and knowledge of much of the material.
<i>Class III</i>	The candidate shows reasonable understanding of at least part of the basic material and some problem-solving skills. Threshold level.
<i>Pass</i>	The candidate shows some limited grasp of the basic material demonstrated by the equivalent of an average of one meaningful attempt at a question on each unit of study. A stronger performance on some papers may compensate for a weaker performance on others.

Fail

Little evidence of competence in the topics examined; the work is likely to show major misunderstanding and confusion, coupled with inaccurate calculations; the answers to the questions attempted are likely to be fragmentary only.