



FINAL HONOUR SCHOOL OF MATHEMATICS PART B 2021

First Notice to Candidates

This circular contains information about:

- the format of papers in Part B;
- technical time;
- classification conventions and marking schemes;
- the use of calculators.

Please read in particular the Class Descriptors, and note that each class requires specific skills in each of three forms: **reasoning**, **deductive logic**, and **problem-solving**.

The full regulations for the Part B examination are contained in the Examination Decrees and Regulations. Full particulars about the syllabus and other information can be found on the Mathematical Institute's website: <https://www.maths.ox.ac.uk/members/students/undergraduate-courses>.

The timetable for the examination will be set by the Examination Schools and will be made available to you through Student Self Service. Timetabling is an extremely complicated process and once the timetable is published it cannot be changed. If you are unable to take a paper at the stipulated time for a religious or other compelling reason, you should ask your college to make the appropriate application on your behalf. Please do not ask the examiners; they are powerless in such matters.

Notices concerning coursework submission, extended essay submission and penalties for late submission will be issued separately.

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

Prof Nick Trefethen
Chair of Part B Examiners
March 2021

FHS 2021 Mathematics Part B

The formal procedures determining the conduct of University examinations are established and enforced by the Proctors.

The examiners are nominated by the Nominating Committee in the Mathematical Institute and these nominations are submitted for approval by the Vice-Chancellor and the Proctors. Formally, the examiners are independent of the Department of Mathematics and of those who lecture courses. However, for written papers in mathematics, the examiners are expected to consult with course lecturers in the process of setting questions. It must be stressed that to preserve the independence of the examiners, candidates are not allowed to make contact directly about matters relating to the content or marking of papers. Any communication must be via the Senior Tutor of your college, who will, if he or she deems the matter of importance, contact the Proctors. The Proctors in turn communicate with the Chair of Examiners.

The Part B examination conventions are available online at:

<https://www.maths.ox.ac.uk/members/students/undergraduate-courses/examinations-assessments/examination-conventions>.

These conventions are a guide to the examiners and candidates but the regulations set out in the Examination Regulations have precedence. The examiners normally adhere to the published examination conventions, subject to the guidance of the appointed external examiners, and other bodies such as the Mathematics Teaching Committee, the Mathematical, Physical and Life Sciences Division, the University's Education Committee and the Proctors.

The paragraphs below contain information given in the examination conventions on the format of papers and classification conventions.

Format of Examination Papers

For courses where coursework is a part of the assessment, candidates are asked to refer to the separate notice regarding the submission deadlines and penalties for late submission.

Mathematics Options

Mathematics Papers B1.1–B8.5

These are unit papers which last 1 hour and 45 minutes (plus 30 minutes technical time – see below) and have three questions. Each question is marked out of 25 and the rubric states “You may submit answers to as many questions as you wish but only the best two will count for the total mark”.

SB3.1 Applied Probability

This is a unit paper which lasts 1 hour and 45 minutes (plus 30 minutes technical time – see below) and has three questions. Each question is marked out of 25 and the rubric states “You may submit answers to as many questions as you wish but only the best two will count for the total mark”. This statistics paper counts as a mathematics unit.

BEE Extended Essay in Mathematics (double unit)

USM marks will be assigned to extended essays with the same meaning as regards class boundaries as in the mathematics 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 25%, 50% and 25%, respectively.

BSP Structured Projects (double unit)

Candidates will be assessed on their written project, oral presentation and peer review. The weightings for these three components are 75%, 15%, 10%, respectively. For the written projects the weighting will be further divided between general explanation and discussion of the problem (50% of available marks) and mathematical calculations and commentary (50% of available marks).

Statistics Options

SB1 (double unit)

This is a $2\frac{1}{2}$ hour paper (plus 30 minutes technical time – see below), with two questions on SB1a and two questions on SB1b. The rubric states “You may attempt as many questions as you wish but only your best three answers will count towards your final mark”. Each question is marked out of 22 and the compulsory assessed practical component is marked out of 34.

SB2.1–SB3.2

These are unit papers which last 1 hour and 45 minutes (plus 30 minutes technical time – see below) and have three questions. Each question is marked out of 25 and the rubric states “You may submit answers to as many questions as you wish but only the best two will count for the total mark”.

Computer Science Options

Candidates are advised to consult the Computer Science Course Handbook for further details regarding the courses Lambda Calculus and Types, and Computational Complexity. The USMs for these units are awarded by the Computer Science examiners.

Lambda Calculus and Types, and Computational Complexity

These are unit papers which last 2 hours (plus 30 minutes technical time – see below) and have three questions. Candidates may answer up to 2 questions. Each question is marked out of 25.

Non-Mathematical Courses

BO1.1 History of Mathematics (double unit)

The written examination will be of two hours' duration (plus 30 minutes technical time – see below). It will have two sections: A (Extracts) with six questions and B (Essays) with three questions. Candidates will be expected to attempt two questions from Section A and one from Section B. The reading course mini-project will consist of an essay of 3000 words; essay topics set by the examiners will be released to the candidates in Week 7 of Hilary Term.

The assessment will use the following weighting principles:

- A USM will be reported for the written paper and for the mini-project. The written paper and mini-project will each be given a weight of one unit when calculating a candidate's weighted overall average for Part B.
- For the project, marks will be awarded for mathematical content, historical content, and presentation.
- The extracts questions in Section A of the written paper will attract marks for treatment of context, content and significance.
- The Section B essay will be marked using the same categories as the project.

Philosophy papers 101, 102, 122, 127 (double units)

These papers will be marked by the Philosophy examiners and assessors and assigned USMs by them.

Technical Time

In addition to the time you have for each examination, you will be given an extra 30 minutes of technical time for uploading and submitting your exam script.

Classification Conventions and Marking Schemes

Please see sections 7–9 of the examination conventions which are available at:

<http://www.maths.ox.ac.uk/members/students/undergraduate-courses/examinations-assessments/examination-conventions>.

Calculators and Tables

As 2021 examinations will take place in an open-book format, candidates should note that there is no restriction on the use of calculators.