Oxford University Department of Computer Science

Undergraduate Supervisory Committee

Examination Conventions for Preliminary Examinations 2020

Examination conventions are the formal record of the specific assessment standards for the course or courses to which they apply. They set out how examined work will be marked and how the resulting marks will be used to arrive at a final result and classification of an award.

This document establishes the examining conventions to be used in the following public examinations:

Preliminary Examination in Computer Science

Preliminary Examination in Computer Science and Philosophy

Preliminary Examination in Mathematics and Computer Science

Conventions for papers that fall under the responsibility of the Mathematical Institute or the Faculty of Philosophy are as set out in their examinations conventions.

1 Rubrics

1.1 Computer Science

The four written papers for Computer Science Preliminary Examinations are:

A10097W1 Functional Programming and Design and Analysis of Algorithms

is of 3 hours' duration and contains eight questions (four on each constituent course); candidates should answer no more than five questions, with no more than three questions from either half of the paper.

A10098W1 Imperative Programming

is of 3 hours' duration and contains eight questions (two on Part 1, three on each of Parts 2 and 3); candidates should answer no more than five questions, with no more than two questions from any part of the paper.

A10100W1 Discrete Mathematics, Probability, and Continuous Mathematics

is of 3 hours' duration and contains nine questions (three on each constituent course); candidates should answer no more than five questions with no more than two from each section.

A10101W1 Digital Systems, Linear Algebra and Introduction to Formal Proof

is of 3 hours' duration and contains eight questions (three on Digital Systems, three on Linear Algebra and two on Introduction to Formal Proof); candidates should answer no more than five questions with no more than two from each section.

1.2 Mathematics and Computer Science

Mathematics & Computer Science candidates take five written papers; **A10097W1 Functional Programming and Design and Analysis of Algorithms** and **A10098W1 Imperative Programming** as described above, and also:

A10138W1 Mathematics I

is of 2.5 hours' duration and contains seven questions (four on Part A and three on Part B); you should submit answers to no more than five questions. You should submit answers to no more than three questions from Section A and no more than two questions from Section B.

A10139W1 Mathematics II

is of 2.5 hours' duration and contains seven questions (three on Part A, three on Part B and one on Part C); you should submit answers to no more than five questions. You should submit answers to no more than two questions from Section A and to no more than two questions from Section B.

A10149W1 Continuous Mathematics and Probability

is of 2.5 hours' duration and contains six questions (3 on each constituent course); candidates should answer no more than four questions.

1.3 Computer Science and Philosophy

Computer Science and Philosophy candidates take five written papers; **A10097W1 Functional Programming and Design and Analysis of Algorithms** and **A10098W1 Imperative Programming** as described above, and also:

A10102W1 Discrete Mathematics and Probability

is of 2.5 hours' duration and contains six questions (3 on each constituent course); candidates should answer no more than four questions.

A10103W1 Introduction to Philosophy

is of 3 hours' duration and contains twelve questions (six on Part A and six on Part B); candidates should answer four questions, including at least one from each section.

A10134W1 Elements of Deductive Logic

Is of 3 hours' duration and contain typically seven or eight questions; candidates should answer four questions. If you answer more than four questions, your overall mark will be determines by your four best answers.

2 Marking

2.1 Marking scheme

All questions in Computer Science prelims are marked out of 20.

Distinction 14-20 marks	a completely or almost completely correct answer to the whole question.
Pass 8-13 marks	standard material substantially correct plus substantial progress on the other parts of the question. or standard material substantially correct and some minor progress on the other parts of the question.
Fail 0-7 marks	Very poor and very limited answer.

Table 1: qualitative descriptors for questions.

2.2 Moderation and classification

The Examiners translate the raw marks on each paper into University Standardised Marks (USMs) out of 100.

Agreed final marks for individual papers will be expressed using the following scale:

70-100	Distinction
40-69	Pass
39-0	Fail

For all Computer Science papers, model solutions are provided. Each script is marked by an examiner or assessor and is checked independently to ensure that all parts have been marked and the marks and part-marks have been correctly totaled and recorded.

2.3 Scaling

The Examiners may choose to scale marks where in their academic judgement:
   a) a paper was more difficult or easy than in previous years, and/or
   b) an optional paper was more or less difficult than other optional papers taken by students in a particular year, and/or
   c) a paper has generated a spread of marks which are not a fair reflection of student performance on the University's standard scale for the expression of agreed final marks, i.e. the marks do not reflect the qualitative marks descriptors.

Such scaling is used to ensure that candidates are not advantaged or disadvantaged by any of these situations. In each case, examiners will establish if they have sufficient evidence for scaling. Scaling will only be considered and undertaken after moderation of a paper has been completed, and a complete run of marks for all papers is available.

If it is decided that it is appropriate to use scaling, the examiners will review a sample of papers either side of the classification borderlines to ensure that the outcome of scaling is consistent with academic views of what constitutes an appropriate performance within in each class.

Detailed information about why scaling was necessary and how it was applied will be included in the Examiners' report and the algorithms used will be published for the information of all examiners and students.

3 Penalties

3.1 Short-weight convention and departure from rubric

The maximum deduction that can be made for short weight should be equivalent to the proportion of the answer that is missing.

Where a candidate has failed to answer a compulsory question, or failed to answer the required number of questions in different sections, the complete script will be marked and the issue flagged. The board of examiners will consider all such cases so that consistent penalties are applied.

3.2 Penalties for non-attendance

Failure to attend an examination will result in the failure of the assessment. The mark for any resit of the assessment will be capped at a pass.

4 Treatment of practicals

Practicals play no part in the classification, provided that candidates achieve a pass mark for their practical work. Candidates who do not achieve a pass mark for their practical work may, at the discretion of the Examiners, be deemed to have failed the examination.

Reports on practicals are marked by the demonstrating staff as each practical has been completed, and the Examiners receive these marks, together with the practical reports themselves. The demonstrating staff are not appointed as Assessors for the purpose of marking practicals, and it is therefore Examiners' responsibility to determine what credit is given for each piece of practical work. The marks given by the demonstrating staff will serve as a guide, using the table below.

The Examiners will give no credit for practical work that was not submitted for marking by the deadline and signed by a demonstrator, unless there are extenuating circumstances.

The following numerical procedure is suggested for processing the marks. Each practical is marked on a scale S+, S, S- that is explained in the Course Handbook. These marks will be converted to numbers using the following scale:

S+	100
S	60
S-	20

The borderlines for passing the practicals are 40 for a Pass and 70 for a Distinction.

To note: Although the mark for the course 'Ethics and Responsible Innovation' will be counted into the practical mark candidates are required to pass this course in order to progress into year 2. Practicals for this course will be marked on a scale of S-, S(pass), S, S+. These marks will be converted to a numerical mark using the following scale:

S+	100
S	60
S (pass)	40
S-	20

5 Progression Rules and classification conventions

5.1 Qualitative descriptors of Distinction, Pass, Fail

Distinction (100-70)
The candidate shows excellent skills in reasoning, deductive logic and problem-solving. He/she demonstrates an excellent knowledge of the material, and is able to use that innovatively in unfamiliar contexts.
Pass (69-40) (69-60): The candidate shows good or very good skills in reasoning, deductive logic and problem-solving. He/she demonstrates a good or very good knowledge of much of the material. (59-50): The candidate shows adequate basic skills in reasoning, deductive logic and problem-solving. He/she demonstrates a sound knowledge of much of the material. (49-40): The candidate shows reasonable understanding of at least part of the basic material and some skills in reasoning, deductive logic and problem-solving.
Fail (39-0) (39-30): The candidate shows some limited grasp of basic material demonstrated by the equivalent of an average of one meaningful attempt at a question on each unit of study. (29-0): The candidate shows 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 questions attempted are likely to be fragmentary only

Qualitative descriptors for classification

5.2 Progression and Resits

Candidates who achieve at least a Pass in the Preliminary Examination may progress to the second year. Candidates who fail to achieve a Pass may resit the examination during the Long Vacation.

Candidates who fail one or two written papers may retake just those papers. Candidates who fail three or more written papers will be required to retake all written papers. The Preliminary Examination may be retaken on at most one occasion.

A student who does not pass the Preliminary Examination on the first or second attempt may not normally proceed to the second year.

6 Final outcome rules

For Computer Science Average-USM =	5 x USM for A10097W1 + 5 x USM for A10098W1 + 5 x USM for A10100W1 + 5 x USM for A10101W1) / 20
For Mathematics and Computer Science Average-USM =	5 x USM for A10097W1 + 5 x USM for A10098W1 + 4 x USM for A10149W1 + 5 x USM for A10138W1 + 5 x USM for A10139W1) / 24
For Computer Science and Philosophy Average-USM =	5 x USM for A10097W1 + 5 x USM for A10098W1 + 4 x USM for A10102W1 + 5 x USM for A10103W1 + 5 x USM for A10134W1) / 24
If the average USM is less than 70, using the above calculation, then the Moderators should apply the adjacent calculation: Adjusted-average-USM =	5 x USM for A10097W1 + 5 x USM for A10098W1 + 4 x USM for A10102W1 + 8 x USM for A10103W1 + 8 x USM for A10134W1) / 30

The average USM should be calculated from the USMs for individual papers, weighted by the number of questions students may answer, as in the table above.

The average USM is then rounded to the nearest integer, with fractions of exactly half a mark being rounded up. In order to pass the Preliminary Examination, candidates must achieve a mark of 40 or higher in each paper and in their practicals.

The Examiners may award a Distinction to Computer Science or Mathematics & Computer Science candidates who, at their first attempt, pass the Preliminary Examination and achieve an average USM of at least 70.

The Examiners may award a Distinction to Computer Science & Philosophy candidates who, at their first examination attempt, pass the Preliminary Examination and achieve either an average USM of at least 70, or an adjusted average USM of at least 70 and an average USM on Computer Science papers of at least 60.

Candidates who have initially failed any element of the examination will not be eligible for the award of a Distinction.

7 Mitigating circumstances notices to examiners

Where a candidate or candidates have made a submission, under Part 13 of the Regulations for Conduct of University Examinations, that unforeseen circumstances may have had an impact on their performance in an examination, a subset of the board (the 'Mitigating Circumstances Panel') will meet to discuss the individual applications and band the seriousness of each application on a scale of 1-3 with 1 indicating minor impact, 2 indicating moderate impact, and 3 indicating very serious impact. The Panel will evaluate, on the basis of the information provided to it, the relevance of the circumstances to examinations and assessment, and the strength of the evidence provided in support. Examiners will also note whether all or a subset of papers were affected, being aware that it is possible for circumstances to have different levels of impact on different papers. The banding information will be used at the final board of examiners meeting to decide whether and how to adjust a candidate's results. Further information on the procedure is provided in the *Policy and Guidance for examiners, Annex C* and information for students is provided at www.ox.ac.uk/students/academic/exams/guidance

8 Details of Examiners and rules on communication with examiners

Prof. Michael Goldsmith (Chair of Examiners)
Dr Andreas Galanis
TBC

Candidates should not under any circumstances seek to make contact with individual internal or external examiners.

Appendix A: **Faculty of Philosophy: marking conventions for Prelims / Mods**

These marking conventions will be used by Philosophy examiners and assessors in marking work in philosophy for the First Public Examination. They apply for use in the academic year 2017-18 and will be reviewed each subsequent year.

Conventions for essay work

The following conventions will be used for marking essay work. The conventions use positive criteria (marked by "+") and negative criteria (marked by "-") in order to assign marks.

Distinction (100-70)

100-80

+ Answer displaying rigorous and independent thinking, a keen critical understanding of relevant material, transparent organisation and presentation, clear and precise expression, effective use of examples.

79-70

+ Answer demonstrating critical understanding of relevant material, transparent organisation and presentation, clear and precise expression, effective use of examples.

Pass (69-40):

69-65

+ Generally effective analysis and argumentation, demonstrating a good grasp of relevant material;
transparent organisation and presentation of material; general clarity of expression.
- Some infelicity in argumentation; analysis slightly lacking in depth or focus; or minor shortcomings
in choice, organisation or presentation of material.

64-60

+ Well-structured and generally satisfactory discussion, offering a mostly correct analysis of the
central arguments and themes.
- Some lapses in argumentation; somewhat pedestrian, unclear or imprecise writing; or deficiencies
in choice or organisation of material.

59-50

+ A structured answer offering analysis of some key aspects of the question; evidence
of a good basic knowledge of relevant material.
- Incomplete answer to the question; significant lapses in argumentation or structure; poor

presentation; significant gaps in knowledge of relevant material; and/or minor irrelevance.

49-40
+ Some evidence of knowledge of material relevant to question and of analytical or argumentative
ability.
- Very limited answer; muddled argumentation; significant degree of irrelevance; and/or seriously
flawed presentation.

Fail (39-0)
Generally, very poor quality work, showing little, if any, evidence of effective study or of analytical or argumentative skills; mostly, or wholly, irrelevant answer.

39-30
+ Some attempt to answer question; occasionally relevant material.
- Extremely limited and inadequate answer, for instance in note form; discussion largely (but not entirely) irrelevant.

29-0
Completely or almost completely irrelevant or ignorant answer; nothing or almost nothing written.

NB. Candidates should note that one of the commonest reasons for answers receiving poor marks is irrelevance. It is very important to direct your answer at the question which has actually been asked.