

# MSc in Computer Science - Examination Conventions 2010/11

The Supervisory Committee for the MSc in Computer Science directs that examinations for which it is responsible are conducted in accordance with these conventions<sup>1</sup>. Examiners are reminded that deviation from these conventions is permitted only after reference to the Supervisory Committee.

Candidates are required to

1. submit coursework assignments/written examinations on a total of between 28 and 34 units of topics with at least 16 units from Schedules B and C combined, and
2. submit a project dissertation which must demonstrate an appreciation of the rôle of methods studied in the course, and
3. attend an examination viva voce, unless individually dispensed.

To satisfy the examiners a candidate must:

- attain a minimum standard (30 USMs) in assignments/written examinations on at least 28 units of topics, and
- pass assignments/written examinations in at least 20 units of topics (including at least 12 units from Schedules B and C combined or alternative topics approved by the organising committee), and
- pass the project, and
- pursue an adequate course of practical work and achieve an overall pass in practicals (see Practicals Marking Scheme in the following).

Assignments, written examinations and dissertations are allocated University Standardised Marks (USMs) out of 100 (see description in the following); 50 and above is a pass.

A candidate who obtains the required minimum standard and passes in assignments/written examinations, and who passes the project, is normally dispensed from attending a viva.

A candidate who achieves an Average USM for Taught Courses of at least 70 and USM for project dissertation of at least 70 will be awarded a Distinction. A Distinction may also be awarded to a candidate who achieves an Average USM for Taught Courses of at least 68 and USM for project dissertation of at least 80. Distinctions may be awarded only at the first attempt.

The USMs refer to figures after they have been rounded up to the next integer.

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<sup>1</sup>Nothing contained in this document supersedes the University's regulations and policy set out in the current *Examination Regulations* (pp. 698-699) and the documents *Notes for the Guidance of Examiners and Chairmen of Examiners* and *Notes of Guidance on Examinations and Assessment*

## Coursework Assignments

Anonymised assignments are marked by the course lecturer and moderated by the examiners. Moderation is intended to ensure consistency and fairness across courses, and the moderators may adjust marks, or take any other necessary steps, to achieve this goal.

In order to ensure comparability of assessment marks across all courses, the examiners may, from time to time, find it appropriate to systematically rescale<sup>2</sup> the marks for certain assignments. In making their decision they will:

- Consider the mean and standard deviations for each paper: a mean in the mid to high 60s, and a standard deviation of about 10 is normally expected;
- Compare the marks for each student on this paper with that student's average marks across all papers.

Examiners are obliged to ensure that any rescaling of assignment marks is fair to all students.

Where questions do not have a precise marking scheme, for example, essay-style questions, the students' answers should be independently double marked.

Every assignment will be checked to ensure that all parts have been seen by the examiners, that all questions had been marked, and that the marks had been added and recorded correctly. After the recorded marks are transferred to the database system used for processing marks, a per-paper data-entry check will be performed.

## Written Examinations

In 2010/11, the following courses will be examined by written examination at the following times:

Functional Programming	week 0	Hilary Term
Databases	week 0	Hilary Term
Compilers	week 0	Trinity Term
Machine Learning	week 0	Trinity Term

For all exams, the examiners base their assessment of your performance in the examination on a scaled mark out of 100 assigned for each paper; the scaling takes into account the likelihood that some papers in the examination are more difficult than others. The examiners have the discretion of taking medical certificates or other evidence into account when arriving at standardised marks for each paper.

Every paper will be checked to ensure that all parts have been seen by the examiners, that all questions had been marked, and that the marks had been added and recorded correctly. After the recorded marks are transferred to the database system used for processing marks,

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<sup>2</sup>They may perform an initial mechanical rescaling, but will then consider whether this obtains fair results. The suggested rescaling method is to use a piece-wise linear function, typically with control points corresponding to the top and bottom students, and USMs of 50 and 70.

a per-paper data-entry check will be performed.

## Project Dissertation

Each project dissertation is read by at least two assessors, including at least one examiner, but excluding the supervisor. Each assessor writes a brief report on the dissertation, including comments on context, contribution, competence, criticism and clarity.

The assessors are asked to give a mark based on the above criteria. Small differences in marks are reconciled by discussion between the two assessors. If there is a difference of more than ten marks, a third assessor is asked to mark the project. The final USM is then computed as an average, weighted by the expertise of the assessors in the project area.

Examiners also receive a report from the project supervisor that is intended to provide them with information about the nature of the student's contribution to the project, the quality of any program that results from the project, and other factors that may not be apparent from the dissertation itself. In coming to their judgement of the overall quality of a project, examiners may take this report into account and, if appropriate, moderate their marks.

## Calculation of the Average USMs for Taught Courses

Arrange the student's courses in decreasing order of marks:  $c_1, \dots, c_n$ . Let the corresponding marks be  $m_1 \geq m_2 \geq \dots \geq m_n$ , and let the number of units for those courses be  $w_1, \dots, w_n$ , respectively. Let  $k$  be the minimum number such that  $\sum_{i=1}^k w_i \geq 28$ : courses  $c_{k+1}, \dots, c_n$  do not count towards the average USM; course  $c_k$  might receive less than a full weighting. The *Average USM for Taught Courses* is then calculated as

$$\left( \left( \sum_{i=1}^{k-1} m_i \times w_i \right) + \left( 28 - \sum_{i=1}^{k-1} w_i \right) \times m_k \right) / 28.$$

## Criteria for University Standardised Marks (USMs)

90-100: The candidate shows remarkable ability and extraordinary insights. Dissertations in this band will be worthy of publication.

80-89: The candidate shows outstanding problem-solving skills and outstanding knowledge of the material over a wide range of topics, and is able to use that knowledge innovatively and/or in unfamiliar contexts.

70-79: The candidate shows excellent problem-solving skills and excellent knowledge of the material over a wide range of topics, and is able to use that knowledge innovatively and/or in unfamiliar contexts.

60-69: The candidate shows good or very good problem-solving skills, and good or very good knowledge of much of the material over a wide range of topics.

50-59: The candidate shows basic problem solving skills and adequate knowledge of most of the material.

40-49: The candidate shows reasonable understanding of at least part of the basic material and some problem solving skills. Although there may be a few good answers, the majority of answers will contain errors in calculations and/or show incomplete understanding of the topics.

30-39: The candidate shows some limited grasp of basic material over a restricted range of topics, but with large gaps in understanding. There need not be any good quality answers, but there will be indications of some competence.

0-29: The candidate shows inadequate grasp of the basic material. The work is likely to show major misunderstanding and confusion, and/or inaccurate calculations; the answers to most of the questions attempted are likely to be fragmentary only.

### **Practicals Marking Scheme**

The descriptions attached to each mark indicate the rough level of performance expected, but may be adjusted to take into account the degree of difficulty of the practical exercise.

S+ The student has either completed the compulsory parts of the exercise and submitted an exemplary report, or completed all parts of the exercise and submitted an adequate report.

S The student has completed the compulsory parts of the exercise and submitted an adequate report.

S– The student has completed only part of the exercise, or has submitted an inferior report.

The following percentages are allocated to the grades shown above:

S+	100%
S	70%
S–	30%

### **Late Submission or Failure to Submit Coursework**

Under the provisions permitted by the Regulations, late submission of coursework (i.e. practical and project reports) will normally result in the following penalties:

Where permission for late submission has been granted by the Proctors (under clause (1) of para. 16.8, page 45), no penalty will be imposed.

Where permission for late submission has not been granted by the Proctors, but the Proctors have given leave for the candidate to remain in the exam (under clauses (3) and (4) of

para. 16.8), the Examiners may impose a penalty not exceeding the credit available for that piece of work. The Examiners should take into account such factors as:

1. the evidence forwarded to them by the Proctors and (insofar as the following matters are not dealt with by such evidence);
2. the degree of advantage gained by the extra time made available to the candidate relative to the time that was available to complete coursework by the original deadline;
3. the weight to be attached to the reason given, if any, for late submission.

Where the candidate is not permitted by the Proctors to remain in the examination he or she will be deemed to have failed the examination as a whole.

### **Prizes**

Two prizes, each of value £200, may be awarded; one for best overall performance in the examination, and the other for best project.