Oxford University Department of Computer Science
Professional Masters Programme

MSc Software Engineering
MSc Software and Systems Security

Examination Conventions
2023-24

1. Introduction

These conventions apply to the MSc in Software Engineering and the MSc in Software and Systems Security, for the Academic Year 2023-24.

These conventions are approved by the Department of Computer Science's Supervisory Committee for Professional Programmes.

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.

2. Marking Conventions

2.1. University scale for standardised expression of agreed final marks

For students who started their courses **before** Michaelmas term 2018 only, agreed final marks for will be expressed according to one of the following scales:

70 – 100	Distinction
50 – 69	Pass
0 – 49	Fail

For students who started their courses **from** Michaelmas term 2018 only, agreed final marks will be expressed using the following scale:

70 – 100	Distinction
65 – 69	Merit
50 – 64	Pass
0 – 49	Fail

2.2 Qualitative criteria for different types of assessment

2.2.1 Written assignments

All submissions are awarded a numerical grade between 0 and 100.

A mark between 0 and 49 indicates that the student has failed to demonstrate an adequate appreciation of all the essential concepts and techniques and/or the ability to apply them, successfully and reliably, to a range of standard situations.

Mark Range	Interpretation
0 - 9	Little progress has been made in tackling the assignment.
10 - 19	Some progress has been made, but the student has failed to demonstrate an adequate appreciation and understanding of any of the essential concepts and techniques.
20 - 29	The student has demonstrated an adequate appreciation and understanding of some of the essential concepts and techniques, but this represents less than half of the material tested in the assignment.
30 - 39	The student has demonstrated an adequate appreciation and understanding of most but not all of the essential concepts and techniques.
40 - 49	The student has demonstrated an adequate appreciation and understanding of all of the essential concepts and techniques, but has not yet demonstrated an ability to apply them, successfully and reliably, in a range of standard situations.

In each case, the mark within the range may indicate: the extent to which the student has demonstrated an appreciation and understanding of the essential concepts and techniques, or others that are relevant but not essential; the extent to which the student has demonstrated an ability to apply them; or the quality of the explanation and presentation.

A mark between 50 and 69 indicates that the student has demonstrated an adequate appreciation and understanding of the essential concepts and techniques and an ability to apply them successfully and reliably to a range of standard situations.

Mark Range	Interpretation
50 - 59	The student has demonstrated an adequate appreciation and understanding of the essential concepts and techniques and an ability to apply them reliably and successfully. However, they have not demonstrated any greater understanding, nor have they demonstrated an ability to evaluate, select, and prioritise the application of different concepts or techniques according to the situation.
60 - 69	The student has demonstrated a greater appreciation and understanding, and an ability to evaluate, select, prioritise, and explain the application of different concepts and techniques according to context, within a range of standard situations. However, they are unable to demonstrate a depth of competence in some respects: in terms of the extent of the application; in terms of the quality of the explanation; or in terms of their ability to extend, adapt or refine the essential concepts and techniques.

A mark between 70 and 100 indicates that a student has demonstrated an excellent appreciation and understanding of the essential concepts and techniques, and has applied them to their full extent within the context of the assignment.

Mark Range	Interpretation
70 - 79	The student has demonstrated an excellent appreciation and understanding of the essential concepts and techniques, and has applied them to their full extent. However, their work falls short of a model answer in terms of the quality and extent of the explanation and presentation.
80 – 89	The student has produced work that could be used as a model answer. The application is complete, and the quality and extent of the explanation and presentation is excellent.
90 – 100	The student has gone beyond that required for a model answer: through extension, adaptation, refinement, or clarification of the essential concepts and techniques; through their use in combination with other methods and tools; or through their application to non-standard situations.

2.2.2 Dissertations

All submissions are awarded a numerical grade between 0 and 100.

The specific challenge of the project and dissertation should allow scope for a convincing demonstration of professional competence and academic ability at Masters' level, and the student's understanding must be clearly demonstrated through a coherent, logical presentation of context, application, and reflection.

The dissertation must include an account of risk and project management in relation to the work undertaken. This can be in the main dissertation body, or as an appendix. It must include also a discussion of ethical, legal, social, and professional issues arising either in the project, or in the broader application domain.

A mark between 0 and 49 indicates that the student has failed to demonstrate an adequate appreciation of the chosen application domain and/or the ability to understand and apply an appropriate selection of concepts and techniques to the specific challenge of the project and dissertation.

Mark Range	Interpretation
0 - 9	Little progress has been made in producing an appropriate dissertation.
10 - 19	Some progress has been made, but the student has failed to demonstrate an adequate appreciation of the chosen application domain.
20 - 29	The student has demonstrated an adequate appreciation of the application domain, and has chosen an appropriate selection of concepts and techniques, but has failed to demonstrate an ability to understand and apply the greater part of this selection.
30 - 39	The student has demonstrated an adequate appreciation, chosen an appropriate selection of concepts and techniques, and has demonstrated an ability to understand and apply most but not all of this selection.

40 - 49	The student has demonstrated an ability to understand and apply all of the selected concepts and techniques, but has not applied them, successfully and reliably, to the specific challenge of the project and dissertation.

In each case, the choice of mark within the range may indicate: the extent to which the student has demonstrated an appreciation of the chosen application domain; the extent to which they have demonstrated the ability to understand and apply an appropriate selection of concepts and techniques; or the extent to which the student has applied them to the specific challenge of the project and dissertation.

A mark between 50 and 64 indicates that the student has demonstrated an adequate appreciation of the chosen application domain and the ability to understand and apply an appropriate selection of concepts and techniques to the specific challenge of the project and dissertation.

It indicates also that the dissertation includes an adequate account of risk and project management in relation to the work, and an adequate discussion of ethical, legal, social, and professional issues arising: either in the project, or in the broader application domain.

Mark Range	Interpretation
50 - 59	The student has demonstrated an adequate appreciation of the chosen application domain and the ability to apply an appropriate selection of concepts and techniques. However, the student has not demonstrated any greater understanding, nor have they demonstrated an ability to evaluate, prioritise, or explain their application of the concepts or techniques.
60 - 64	The student has demonstrated a greater appreciation and understanding, and an ability to evaluate, select, prioritise, and explain the application of different concepts and techniques according to context, within a range of standard situations. However, they are unable to demonstrate a depth of competence in some respects: in terms of the extent of the application; in terms of the quality of the explanation; or in terms of their ability to extend, adapt or refine the essential concepts and techniques.

A mark between 65 and 69 indicates that the student has demonstrated a very good appreciation of the chosen application domain and the ability to understand and apply a good selection of concepts and techniques to the specific challenge of the project and dissertation. It however falls short of the criteria for excellence.

It indicates also that the dissertation includes an adequate account of risk and project management in relation to the work, and an adequate discussion of ethical, legal, social, and professional issues arising: either in the project, or in the broader application domain.

Mark Range	Interpretation
65 – 69	The student has demonstrated a very good appreciation and understanding, and an ability to evaluate, prioritise, and explain their application of concepts and techniques. However, their submission falls short of excellence in some respects: in terms of the extent of the application; in terms of the quality of their explanation; or in terms of their ability to extend, adapt, or refine the concepts and techniques.

A mark between 70 and 100 indicates that a student has demonstrated an excellent appreciation and understanding of the concepts and techniques, and has applied them to their full extent within the context of the project and dissertation.

It indicates also that the dissertation includes an adequate account of risk and project management in relation to the work, and an adequate discussion of ethical, legal, social, and professional issues arising: either in the project, or in the broader application domain.

Mark Range	Interpretation
70 - 79	The student has demonstrated an excellent appreciation and understanding of the essential concepts and techniques, and has applied them to their full extent within the context of the project. However, their work falls short of a model dissertation in terms of the quality and extent of the explanation and presentation.
80 – 89	The student has produced a submission that could be used as a model dissertation. The selection and application of concepts and techniques is complete in context, and the quality and extent of the explanation, presentation and reflection is excellent as is the discussion of the ethical, legal, social and professional issues, risk management and project management.
90 - 100	The student has produced a dissertation that exceeds expectations, not only in terms of the excellence of explanation, presentation and reflection, and the application of an appropriate selection of techniques, but also in terms of the quality and novelty of that application: for example, through the extension, adaptation, refinement, or clarification of the concepts and techniques, their use in combination, or their application to non-standard situations. The account of the project work is excellent, as is the quality and extent of the discussion of ethical, legal, social, and professional issues, risk management and project management.

2.3 Verification and reconciliation of marks

2.3.1 Written assignments

For papers for which there is a model solution and marking scheme approved by the examiners, 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 totalled and recorded.

Where assignment questions do not have a precise model solution and marking scheme the assignments will be independently double-marked by two examiners or assessors. When double-marking results in discrepancies of judgment between the two markers, the appropriate reconciliation will take place; the markers will identify the reason for the difference and agree an appropriate mark.

2.3.2 Dissertations

Each submitted dissertation will be assessed separately by two markers, who each provide a report and a recommended grade. The two assessors will then attempt to reconcile their reports and arrive at an agreed mark. If they can't agree on a mark, another examiner may be asked to arbitrate.

2.4 Short-weight convention and departure from rubric

A mark of zero shall be awarded for any part or parts of questions that have not been answered by a candidate, but which should have been answered.

2.5 Penalties for late or non-submission

Late submission of an assignment or the dissertation up to 15 minutes after the deadline will attract a penalty of 10 marks. **Submissions more than 15 minutes late will not be accepted.**

In circumstances such as illness or other urgent cause that is unforeseeable, unavoidable and/or insurmountable, candidates may apply to the Proctors for a prospective or retrospective extension of the submission deadline, through their college office.

If personal circumstances do not allow a student to make progress with their academic work or to complete and submit assignments a suspension of status should be considered. This should be discussed with the supervisor and/or the programme's Director of Graduate Studies.

A candidate may withdraw from the assignment distributed at the end of a teaching week they attend before the assignment deadline. If a candidate would still like to be assessed on that module, they must then register to take the next assignment in the same subject, provided that another module in that subject is scheduled within their period of study, without the need to attend the teaching week for that module. Registration is required in order to be permitted to complete the assessment. Failure to submit that subsequent assignment will result in a grade of zero for the assignment. If a candidate is prevented from submitting the subsequent assignment by illness or by another urgent cause that is unforeseeable, unavoidable and/or insurmountable, they may apply to the DGS to take the assignment on one further occasion. (This is only for the assignments for taught courses, and does not apply to the project proposal submitted after the Project Week.)

A candidate who withdrew from an assignment before November 2021 may enter for that assignment on one further occasion only.

2.6 Penalties for over-length work and departure from approved titles or subject-matter

Dissertations

Dissertations should be submitted in A4 format, with a normal font size no less than 10pt and no greater than 12pt, and margins no less than 2cm and no greater than 2.54cm. As stated in the regulations, they should not exceed 20,000 words in length, excluding diagrams and appendices.

Where a candidate submits a piece of written coursework which exceeds the word or page limit , the examiners, **if** they agree to proceed with the examination of the work, may reduce the mark by up to one class (i.e. from a Distinction to a Merit, or its equivalent).

Where a candidate submits a dissertation whose title or subject matter differs from that which was approved by the supervisory body concerned, the examiners, **if** they agree to proceed with the examination of the work, may similarly reduce the mark by up to 10 marks.

Assignments

Assignments should be submitted in A4 format, with a normal font size no less than 10pt and no greater than 12pt, and margins no less than 2cm and no greater than 2.54cm. They should normally be no more than 25 pages or 10,000 words, excluding diagrams, images and appendices.

Where a candidate fails to comply with the relevant rubric, the examiners, if they agree to proceed with the examination of the work, may reduce the mark by up to 10 marks.

2.7 Penalties for poor academic practice

Candidates must avoid plagiarism in all submitted work. Plagiarism includes the deliberate or inadvertent lack of acknowledgement of the words or ideas of others, paraphrasing, collusion, inaccurate citation, failure to acknowledge assistance, or use of material written by professional agencies or other persons. It also includes the use of material generated wholly or in part through use of artificial intelligence (save when use of AI for assessment has received prior authorisation e.g. as a reasonable adjustment for a student's disability, or as part of the specific instructions of the assignment). Candidates are advised to consult Appendix A of the General Course Handbook https://www.cs.ox.ac.uk/files/14377/CS%20Handbook%20final%202023.pdf, the University's online guide https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism and complete the online course in avoiding plagiarism, https://weblearn.ox.ac.uk/portal/site/:skills:generic:avoidplag. It is permissible to include material from a source such as a textbook, an academic paper or the Internet provided a clear reference to the source is included.

Assessors should mark work on its academic merit. Depending on their severity, cases of suspected plagiarism may be referred to the Proctors for investigation or may be dealt with by the board of examiners. If dealt with by the board of examiners (i.e. if material under review is less than 10% of the whole) as a case of poor academic practice, the examiners may deduct up to 10% of the marks available for the assessment. Where the consequence of the marks deduction would result in failure of the assessment and of the programme, the case must be referred to the Proctors.

If a student has previously had marks deducted for poor academic practice or has been referred to the Proctors for suspected plagiarism, the case must always be referred to the Proctors.

In addition, the most serious cases of poor academic practice should also always be referred to the Proctors.

It is not permissible to submit work which has already been submitted, either partially or in full, for another qualification of this University, or for a qualification at any other institution.

3. Progression rules and classification outcomes

3.1 Qualitative descriptors of Distinction, Merit, Pass, Fail

Outcome	Interpretation
Distinction	The student has demonstrated an excellent appreciation and understanding of the essential concepts and techniques.
Merit	The student has demonstrated a very good appreciation and understanding of the essential concepts and techniques.
Pass	The student has demonstrated an adequate appreciation and understanding of the essential concepts and techniques.
Fail	The student has not demonstrated sufficient appreciation and understanding of the essential concepts and techniques.

3.2 Final outcome rules

For the Degree of MSc in Software Engineering

To be awarded a pass in the MSc, a candidate is required to:

- complete modules in 10 different subjects, of which 6 or more need to be in Software Engineering (as defined by the degree schedule)

- achieve an average grade overall of 50 across 10 modules
- achieve an average grade of 50 or more in the 6 best Software Engineering assignments
- attend a project week
- submit a dissertation that was approved as a topic in Software Engineering
- achieve a grade of 50 or more in the dissertation

To achieve a merit award in the MSc, a candidate is required to:
- complete modules in 10 different subjects, of which 6 or more need to be in Software Engineering (as defined by the degree schedule)
- achieve an average grade of 65 or more across 10 modules
- achieve an average grade of 65 or more in the 6 best Software Engineering assignments
- attend a project week
- submit a dissertation that was approved as a topic in Software Engineering
- achieve a grade of 65 or more in the dissertation

To achieve a distinction for excellence in the MSc, a candidate is required to:
- complete modules in 10 different subjects, of which 6 or more need to be in Software Engineering (as defined by the degree schedule)
- achieve an average grade of 70 or more across 10 modules
- achieve an average grade of 70 or more in the 6 best Software Engineering assignments
- attend a project week
- submit a dissertation that was approved as a topic in Software Engineering
- achieve a grade of 70 or more in the dissertation

For the Degree of MSc in Software and Systems Security:

To be awarded a pass in the MSc, a candidate is required to:
- complete modules in 10 different subjects, of which 6 or more need to be in Security (as defined by the degree schedule)
- achieve an average grade of 50 or more across 10 modules
- achieve an average grade of 50 or more in the 6 best Security assignments
- attend a project week
- submit a dissertation that was approved as a topic in Security
- achieve a grade of 50 or more in the dissertation

To achieve a merit award in the MSc, a candidate is required to:
- complete modules in 10 different subjects, of which 6 or more need to be in Security (as defined by the degree schedule)
- achieve an average grade of 65 or more across 10 modules
- achieve an average grade of 65 or more in the 6 best Security assignments
- attend a project week
- submit a dissertation that was approved as a topic in Security
- achieve a grade of 65 or more in the dissertation

To achieve a distinction for excellence in the MSc, a candidate is required to:

– complete modules in 10 different subjects, of which 6 or more need to be in Security (as defined by the degree schedule)
– achieve an average grade of 70 or more across 10 modules
– achieve an average grade of 70 or more in the 6 best Security assignments
– attend a project week
– submit a dissertation that was approved as a topic in Security
– achieve a grade of 70 or more in the dissertation

Distinctions and Merits will only be considered at the first attempt. Should a student attend modules and submit assignments in more than 10 subjects, the Examiners will consider the 10 assignments that would best advantage the student in the examination. The average grade is rounded to the nearest integer (half marks round up).

A candidate who fails to satisfy the Examiners on the first occasion of their final examination, but would satisfy the Examiners in respect of another, lower qualification offered by the Programme, will be given a choice between failure (and possible re-examination), and the award of that other qualification.

If a candidate fails to satisfy the Examiners on the second occasion of their final examination, but would satisfy the Examiners in respect of another, lower qualification offered by the Programme, then they will be awarded that other qualification.

To be awarded a pass in a **Postgraduate Diploma**, a candidate is required to:

– complete modules in 8 different subjects
– achieve an average grade of 50 or more in written assignments for those modules

To be awarded a merit, it is normally sufficient to:

– complete modules in 8 different subjects

– achieve an average grade of 65 or more in written assignments for those modules

To achieve a distinction for excellence, it is normally sufficient to:

– complete modules in 8 different subjects
– achieve an average grade of 70 or more in written assignments for those modules

To be awarded a pass in a **Postgraduate Certificate**, a candidate is required to:

– complete modules in 4 different subjects
– achieve an average grade of 50 or more in written assignments for those modules

To be awarded a merit, it is normally sufficient to:

– complete modules in 4 different subjects
– achieve an average grade of 65 or more in written assignments for those modules

To achieve a distinction for excellence, it is normally sufficient to:

– complete modules in 4 different subjects
– achieve an average grade of 70 or more in written assignments for those modules

4. Use of vivas

The Examiners have the right to require any student to attend for an oral examination (viva) for any assignment, or the award as a whole. However, a candidate who obtains the required passes in written assignments, and who achieves at least a pass in the project dissertation, is normally dispensed from attending a viva.

5. Failure and Resubmission

The examiners will decide on the final classification of a candidate's degree when the candidate has completed the taught component of the course and submitted their dissertation.

If, at this point, a candidate has not fulfilled the requirements for written assignments stated above, and they have not opted for an exit award, they will be granted three more terms in which they may register for and attend additional modules in the usual way. They may also take assignments for scheduled modules in subjects for which they have previously attended a teaching week, even if they had previously taken an assignment in that subject. This additional period of study begins with the start of the next term following the publication of results; no extensions or intermissions to this period are usually permitted. A candidate who has failed the taught part of the degree only may not resubmit the project and dissertation.

A student who has failed to satisfy the Examiners with regard to the project and dissertation only may submit a fresh dissertation on one occasion only, not later than three terms after the initial attempt, except in highly exceptional circumstances. If the subject of the dissertation has changed significantly from an original submission, then a fresh proposal will be required. A candidate who has failed project and dissertation only may not enter for further modules and assignments.

A candidate who has failed both the taught element and project has three terms to take additional modules and assignments, and resubmit their project and dissertation.

Any candidate who fails to satisfy the Examiners on the first occasion of their final examination will not be considered for a distinction or merit in the same award, should they be examined on a second occasion.

6. Mitigating circumstances notices to examiners

A candidate's final outcome will first be considered using the final outcome rules as described above in section 3. The exam board will then consider any further information they have on individual circumstances.

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 submissions were affected, being aware that it is possible for circumstances to have different levels of impact on different submissions. 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 *Examination and Assessment Framework, Annex E* and information for students is provided at https://www.ox.ac.uk/students/academic/exams/problems-completing-your-assessment.

7. Prizes to be considered by the examiners

Prize - Hoare Project Prize for MSc in Software Engineering and MSc in Software & Systems Security

Summary - The prize, value £200, may be awarded, if there is a candidate of sufficient merit, by the Examiners for the Degree of Master of Science in Software Engineering and Software & Systems Security each year to the candidate whose performance in the project they judge to be the best.

Prize - Hoare for the best overall Performance for MSc in Software Engineering and MSc in Software & Systems Security

Summary - The prize, value £200, may be awarded, if there is a candidate of sufficient merit, by the Examiners for the Degree of Master of Science in Software Engineering and Software & Systems Security each year to the candidate whose overall performance they judge to be the best.

Prize – Richard Bird Prize for the best-presented dissertation

The prize, value £200, may be awarded, if there is a candidate of sufficient merit by the end of the academic year, each year, to the candidate whose dissertation best presents a piece of software, an algorithm, or a mathematical theory pertaining to program construction.

8. Details of examiners and rules of communicating with examiners

Dr Christopher Hargreaves (Chair)
Prof Jeremy Gibbons
Prof Ivan Flechais
Dr Stefano Gogioso
Dr Reuben Binns
Dr Steffen Zschaler (External, MSc in Software Engineering)
Dr Awais Rashid (External, MSc in Software & Systems Security)

Candidates should not under any circumstances seek to make contact with individual internal or external examiners, or assessors, in relation to the assessment or examination.