

MSc in Statistics: Marking criteria for the summer research project

Last updated: January 2024

1. Marking process for the thesis

The first and second marker each give a grade on the content of the thesis based on the marking criteria described below. Unless marks disagree substantially, the mark for the thesis is calculated by averaging the marks from the first and second marker as follows:

- Thesis mark =
 $0.9 \times \text{avg content mark of the thesis by the first and second markers} +$
 $0.1 \times \text{initiative mark on the project by the supervisor}$

Where markers disagree substantially, the liaison panel will initiate a consolidation process and may invite a third independent marker.

2. Marking criteria for the thesis

Distinction (70-100)

85-100	The thesis contains excellent original work, with a significantly novel result. The work is explained excellently, with a very good/comprehensive account of and references to existing work. The conclusions are excellently reasoned and communicated. The quality of writing, plots and presentation is excellent, at the level expected in an academic paper or book.
75-84	The thesis contains good original work, with a significantly novel result. The work is explained very well, with a very good/comprehensive account of and references to existing work. The conclusions are well reasoned and communicated. The quality of writing, plots and presentation is good, close to a publishable standard without much addition.
70-74	The thesis contains good original and novel work. The work is explained well, with a good account of and references to existing work. The conclusions are well reasoned and communicated. The quality of writing, plots and presentation is good, close to a publishable standard without much addition.

Merit (60-69)

65-69	The thesis contains several good original ideas that are either generally straightforward to implement and/or not innovating far enough to complete a significant result. The work is still explained well and with good account of and references to existing work. The report is well written and well presented, but not close to a publishable standard without much addition.
60-64	The thesis contains some good original ideas that are generally straightforward to implement and not innovating far enough to complete a significant result. There is fair explanation of the work with some account of and references to existing work. The report is written and presented to a satisfactory standard.

Pass (50-59)

55-59	The thesis contains an explanation of the problem and the work of others on it, a description of some suitable methods for tackling it, but without much independent work of the candidates own.
50-54	As above but with other shortcomings including incomplete referencing, unclear text or poor presentation.

Fail (0-49)

40-49	Poor understanding, with many shortcomings including minimal referencing, unclear text, or poor presentation. If significant material is quoted, verbatim, from a cited source, without evidence that the student understands it, no mark higher than 49 should be given.
20-39	Very poor understanding, with many shortcomings including minimal referencing, unclear text, or poor presentation.
0-19	No evidence of understanding, with many shortcomings including scant references, unclear text, and very poor presentation.

Notes for marking the thesis.

- **For Distinction level, the level of originality must be** significant and not just a straightforward extension of existing work (e.g., easy to implement extensions of existing theory, easy to implement simulations, or straightforward real-data examples, should **not** be deemed as sufficient levels of originality for distinction level grades).
- **When the thesis is close to a degree classification threshold (i.e. 60 or 70),** remember the degree classification algorithm on the MSc in Statistics automatically considers students for an uplift when their thesis mark is in the 68.00-69.99 range and their OWA is above 70.00, and so thesis marks should be marked on the criteria above.
- **Grades under 70 are below the Distinction threshold, and the criterion for this should be** the presence or absence of original work or insights that go beyond straightforward extensions of existing theory/analysis, and the significance of the result(s) obtained. If a mark is just above or below 70, the reason for this should be stated clearly.
- **Grades under 60 are below the Merit threshold, and the criterion for this should be** the presence or absence of an attempt to perform original work or obtain significant novel insights. For example, a project which only reviews the problem and potential analysis methods would fall below the Merit boundary. If a mark is just above or below 60, the justification should be stated clearly.
- **Grades under 50 are below the Pass threshold and correspond to a Failing mark; this should only be** for projects where there is strong doubt as to whether the student is in command of the material. If a mark is just above or below 50, the reason for this should be stated clearly.
- While original research is desirable wherever feasible, in some areas a suitable project might be to apply, implement or explain a known result. A report which clarified a known cited result, presenting it more clearly than the published source, might deserve a mark in the 75-84 range, and a higher mark would be justified if there were evidence of a new insight, e.g., if the relationship between known results was clearly discussed.
- A report which was written in the candidates own words, to the standard of a chapter of an undergraduate textbook, would be regarded as excellent presentation.

- While original work is not needed for a Pass, some original ideas are needed for a Merit, and they should be very well developed to justify a Distinction. All project topics should be of such a level that a Distinction mark could be justified for excellent work on them.
- Of course, verbatim quotes from uncited sources are treated as plagiarism, or at best, as poor academic practice. Please contact the course director if you suspect plagiarism in the thesis.

3. Marking process for the initiative mark

The project supervisor gives a grade on the initiative of the student during the thesis based on the marking criteria described below. Unless marks disagree on the content of the thesis differ substantially, the thesis mark is then calculated as follows:

- Thesis mark =
 $0.9 * \text{avg content mark of the thesis by the first and second markers} +$
 $0.1 * \text{initiative mark on the project by the supervisor}$

4. Marking criteria for the initiative mark

85-100	Student has shown consistent initiative and independence over the entire period and involving all parts of the research project. Significant original ideas which are very well developed. Overall, students will have shown independence and initiative similar to a first year PhD student in a related area. Students will have fully thought through the project well beyond the initial suggestions provided by the supervisor; they will have found, read and understood a deeper and wider set of background literature than suggested by the supervisor; they will have initiated multiple new and significant ideas to existing methodology; and they will have independently investigated the wider ramifications of the new approach.
70-84	Student has shown some initiative and independence in most aspects of the work. Original ideas with good development. As above, with 1-2 areas below that expected at high distinction level.
60-69	Student has shown limited initiative and independence, and not consistently throughout the project. Some original ideas, although only partially developed. Students will have thought through the project along the initial suggestions provided by the supervisor but not independently much further; they will have found, read and understood some background literature other than suggested by the supervisor; they will have partially developed new ideas beyond existing methodology; and they will have independently investigated some aspects of the work beyond what was suggested by the supervisor.
50-59	Limited initiative and limited independence. Some evidence of original ideas, although not well developed. Students will have stayed close to the suggestions provided by the supervisor; they may have found, read and partially understood some background literature other than suggested by the supervisor; they will not have attempted new ideas beyond existing methodology; and they will not have independently investigated wider implications beyond those suggested by the supervisor.
40-49	Little initiative and independence, and no real originality. Stays very close to sources.
0-39	Stays too close to sources and/or has shown almost no initiative or independence.

Notes for marking the initiative mark.

- The mark awarded for initiative by the first marker reflects an assessment of the extent of the independence of the student from direction by the supervisor. Highly motivated students that have shown great ownership, leadership and initiative of their work will be awarded a high initiative mark. On the other hand, students that showed limited leadership on the development of the project will be given a lower initiative mark. The term "independence" does not mean working alone or skipping supervisory meetings.
- Throughout it is not required that students conceive original ideas entirely by themselves. Supervisors may have provided the initial stimulus, and the students are assessed on how well and independently they developed the initial stimulus in their thesis.

5. Marking process for the oral presentation

The first and second marker each give an integer grade on "Delivery and Presentation" and "Presentation of Technical Content". The mark for the oral presentation is calculated by averaging the marks from the first and second marker as follows:

- Oral presentation mark =
 $0.5 * \text{avg Delivery/Presentation mark by the first and second markers} +$
 $0.5 * \text{avg Presentation of Technical Content mark by the first and second markers}$

6. Marking criteria for the oral presentation

An overall score of 20/40 corresponds to the lowest pass mark, a score of 24/40 corresponds to the lowest merit mark, and a score of 28/40 corresponds to the lowest distinction mark.

Delivery and Presentation (out of 20)		Presentation of Technical Content (out of 20)	
Distinction 14-20	A very well-structured talk. Confident and enthusiastic speech. Professionally looking visual aids efficiently and effectively illustrate the points being made. Engaging talk delivered at a suitable pace showing excellent presentation skills.	Distinction 14-20	The talk gives a very clear outline of the problem, describing the motivation and the "state of play" in the literature. The technical content and statistical concepts are conveyed and presented in the student's own words and interpretation. Overall, content is pitched at a level suitable for fellow non-specialist MSc in Statistics students and did not require prior reading of the dissertation to follow. Knowledgeable answers to questions after the talk.
Merit 12-13	As above with 1-2 aspects below that expected of distinction level, for example, student is significantly over-running on time, consistent reading of notes/slides, the student is just reading slides word-for-word, no effort to engage with the audience, excessively wordy or cluttered visual aids, some parts inaudible or unclear, pace inadequate due to too much material.	Merit 12-13	As above with 1-2 aspects below that expected of distinction level, e.g., answers fail to show genuine understanding of unresolved issues, no mention of standard practice/state of the literature, talk suitable only for an expert audience or someone who read the dissertation, and sometimes fails to convey technical aspects with clarity.
Pass 10-11	Several aspects mentioned above below expectation or unsatisfactory, but with some delivery that communicates the background/motivation and scope of the student's work.	Pass 10-11	Several aspects mentioned above below expectation or unsatisfactory, but with some attempt to convey technical concepts.
Fail 0-9	The presentation fails to communicate both the background/motivation and the scope of the student's work.	Fail 0-9	Contains multiple substantial errors in the presentation of the content, lacks any mathematical depth, or otherwise fails to provide evidence of understanding and work.