MPhys Project

Mark rubric and grade descriptors

The individual marks for the implementation, report and interview contribute to a total mark of 100. An overview of the mark breakdown can be found on this page. The grade descriptors for each element of the assessment follow on the subsequent pages.

The grade descriptors for each element are for indication only, since it is impossible to cover all scenarios. Note that the actual performance can fall between the grade descriptors, and the marks awarded may reflect that some elements described in the grade descriptor were better executed than others.

Mark rubric

Implementation (25/100 = 25% of total mark)

Quality of lab book/notes	5/100 = 5%
Effort, initiative, critical thinking and originality	10/100 = 10%
Extent and quality of results	10/100 = 10%

Report (50/100 = 50% of total mark)

Structure and presentation	5/100 = 5%
Style and clarity of writing	5/100 = 5%
Figures and tables	5/100 = 5%
Literature review and references	5/100 = 5%
Physics and technical content	15/100 = 15%
Interpretation and critical evaluation	15/100 = 15%

Interview (25/100 = 25% of total mark)

Presentation	5/100 = 5%
Understanding of results and background physics	20/100 = 20%

Grade descriptors

Implementation	**Inadequate** **< 30%**	**Insufficient** **30 – 40%**	**Sufficient** **40 – 50%**	**Satisfactory** **50 – 60%**	**Good** **60 – 70%**	**Very good** **70 – 80%**	**Excellent** **80 – 90%**	**Exceptional** **90 – 100%**
Quality of lab book/notes **5/100**	Missing or inadequate record.	Sparse record. Useless for future reference.	Basic record, but key aspects are missing, e.g., data, analysis of results, key calculations, or references.	Some elements of "Good" and some elements of "Sufficient".	Contemporaneous record, but some details are missing, e.g., dates or figures.	Comprehensive, robust and contemporaneous record. All relevant details included, no loose sheets or uncollated material, and all records dated.	As before, with aims and objectives, and summaries included.	As before and, based on the lab book/notes alone, all results can be cross-checked, the project can be fully reconstructed, and a complete report can be written. At the standard expected of a professional researcher.
Effort, initiative, critical thinking and originality **10/100**	Inadequate effort that limited progress. This could include a serious lack of attendance. Inadequate evidence of initiative, critical thinking or originality.	Progress was slower than expected due to lack of effort. Instructions or project plans were only partially followed.	Instructions or project plans were followed, but there was only limited evidence of initiative or critical thinking to help shape the project.		Instructions or project plans were executed successfully in a timely fashion. Good evidence of initiative and critical thinking.	The student was in full control of the project. Their initiative and critical thinking helped to shape the project, and results were critically evaluated and used to inform the project planning.	As before, but the student showed originality that shaped the project.	As before, but the student was able to operate independently from the supervisor with confidence. At the standard expected of a professional researcher.
Extent and quality of work **10/100** This should be based on realistic expectations given the circumstances. Students should not be penalised for lack of progress due to factors outside their control, e.g., faulty equipment, working without a partner, or having to work remotely.	Inadequate progress was made.	Limited progress made due to lack of effort or understanding, or limited ability to handle the equipment or methods, even considering the time needed to learn how to use software or apparatus.	Adequate progress made, showing some results and evidence of student learning.		Good progress made, and a new type (for the student) of result (including null results), data, method or experimental setup has been produced. Good evidence of student learning.	As before, with strong evidence that the student has gained proficiency with the equipment, theory or methods.	As before, but the high level of effort and skill of the student has ensured extensive and robust results.	As before, but the results are novel within the context of the existing literature or state-of-the-art. At the standard expected of a professional researcher.

Report	**Inadequate** **< 30%**	**Insufficient** **30 – 40%**	**Sufficient** **40 – 50%**	**Satisfactory** **50 – 60%**	**Good** **60 – 70%**	**Very good** **70 – 80%**	**Excellent** **80 – 90%**	**Exceptional** **90 – 100%**
Structure and presentation **5/100**	Inadequate attempt at organisation or poor presentation that seriously limits the accessibility of the report.	Key sections are missing, e.g., the introduction or conclusions, or the presentation is of insufficient quality.	The structure is adequate, but the report is not logically organised, or problems with the presentation affect the readability.	Some elements of "Good" and some elements of "Sufficient".	There are no problems with the presentation. Clear structure is followed, but the organisation or balance could be improved.	The report is logically organised with a balance of material between sections. The presentation aids the readability.	As before, but the structure adds clarity, and the presentation is professional, including typesetting of all equations.	As before, but signposting and cross-referencing are used to good effect. At the standard expected of a professional researcher.
Style and clarity of writing **5/100** Reports exceeding a total length of 20 A4 pages (incl. figures and references but excl. the titlepage, abstract, tables of contents or appendices) or fail to adhere to the required margin size (at least 2 cm) and text size (no smaller than 11 pt) should not be awarded more than 40% in this category.	The report is very difficult to follow, due to incoherent narrative or frequent serious errors of English.	There is a lack of clarity across the majority of the report. Errors of English may be frequent.	There is terseness, verboseness, repetition or occasional serious errors of English that are detrimental to the understandability of report. An abstract summarising the report is included.		The writing is mostly clear and in an appropriate scientific style, but there are still unclear passages or a significant number of minor errors of English. A coherent abstract is included.	The report is clear and concise, and written in an appropriate scientific style with only a small number of minor errors of English. A concise, well-structured and informative abstract is included.	As before, but the report is easy to read, free of errors and an example of a well-developed scientific style.	As before, but the report is highly informative, engaging and a pleasure to read. At the standard expected of a professional researcher.
Figures and tables **5/100**	Inadequate use of figures or tables.	Insufficient, limited or excessive use of figures or tables that is detrimental to the report.	Basic use of figures or tables that is limited or excessive in places. Captions may be missing or uninformative, or plots may be missing labels or units.		Use of figures or tables complements the report, but the presentation or quality of the figures could be improved, or captions could be more informative.	Figures or tables are well presented, used to good effect and cross-referenced in the main text.	As before, but figures or tables are professionally presented, and all captions are concise and informative.	As before, but there is evidence that figures or tables have been designed and selected to benefit the report and best support the analysis and conclusions. At the standard expected of a professional researcher.

Report	**Inadequate** **< 30%**	**Insufficient** **30 – 40%**	**Sufficient** **40 – 50%**	**Satisfactory** **50 – 60%**	**Good** **60 – 70%**	**Very good** **70 – 80%**	**Excellent** **80 – 90%**	**Exceptional** **90 – 100%**
References and literature review **5/100**	Limited or inappropriate references, with little or no literature review.	Key references and aspects of literature review are missing.	Basic use of references and cursory literature review. References may be missing information, incorrectly cited or inconsistently formatted.	Some elements of "Good" and some elements of "Sufficient".	A literature review is used to give context to the report, but the bibliography remains limited. Some information may be missing or more citations might be expected throughout the report.	A comprehensive literature review is provided that motivates the report. Appropriate range of sources is used, citations are complete, and the report is well referenced throughout.	As before, but the bibliography contains an extensive range of sources, including primary, secondary and tertiary literature, as well as classic and recent material.	As before, but there is evidence of a broad command of the existing literature and strong awareness of the current state-of-the-art. At the standard expected of a professional researcher.
Physics and technical content **15/100**	Inadequate content, or serious errors in the physics or technical content negate the results or conclusions.	Detrimental errors in understanding of the physics or technical content. Explanations incorrect or inaccessible. Introductory or conclusory material cannot be understood by a non-expert.	Basic explanations of the physics and technical content are given, although there are important gaps. There is evidence of basic understanding, but the introductory and conclusory material remains inaccessible.		The physics and technical content are explained clearly, there is evidence of good understanding, and the introductory and conclusory material is accessible.	Explanations are clear, concise and correct, evidencing solid understanding. Attention is given to the pedagogy and accessibility of explanations; and the introductory and conclusory material is understandable to a non-expert.	As before, but the explanations demonstrate a deep understanding of the physics and technical content.	As before, but the exposition of the physics and technical content shows originality and flair. At the standard expected of a professional researcher.
Interpretation and critical evaluation **15/100**	No critical discussion. No error analysis, where expected.	Limited critical evaluation of the methods, results or analysis. Incomplete or incorrect error analysis, where expected.	Some critical evaluation of the methods, results or analysis. Basic error analysis, where expected.		Suitable interpretation and critical evaluation of the methods, results or analysis, but discussion is limited in parts. Sound error analysis, where appropriate.	All methods, results or analysis are critically explained and interpreted in the context of the existing literature. Errors are fully evaluated and discussed, where expected.	As before, but internal and external cross-checks are included and described in detail.	As before, but a thorough evaluation of the robustness and limitations of the results, methods or analysis are given. At the standard expected of a professional researcher.

Interview	**Inadequate** **< 30%**	**Insufficient** **30 – 40%**	**Sufficient** **40 – 50%**	**Satisfactory** **50 – 60%**	**Good** **60 – 70%**	**Very good** **70 – 80%**	**Excellent** **80 – 90%**	**Exceptional** **90 – 100%**
Presentation **5/100**	The presentation is inadequate and provides, at most, a confused picture of the project and results.	A poorly prepared presentation that makes it difficult to understand aspects of the project or results.	A basic overview of the project is given, but key information or aspects is missing, e.g., the motivation or conclusions. The presentation may be significantly under or over time, or the slides may not support the delivery.	Some elements of "Good" and some elements of "Sufficient".	A complete and understandable overview of the project is given. There may be room for improvement in the structure, the balance of material, or the time keeping. The slides might be cluttered or unclear.	A clear, concise and confident overview of the project is given, covering the motivation, methods, results and conclusions. The slides are clear and uncluttered, and aid the delivery. The presentation is to time.	As before, but the presentation is well balanced with a thoughtful selection of material.	As before, but the presentation is exceptionally creative, informative and engaging. At the standard expected of a professional researcher.
Understanding of results and background physics **20/100** The understanding of all students will be assessed individually, even when working in a pair. The marks can differ between project partners when there is a clear difference in performance.	Evidence of serious confusion about large parts of the background physics or the project work. Unable to answer questions.	Evidence of serious confusion about some of the background physics or the project work. Attempts made to answer some questions.	Evidence of a basic understanding of the background physics, the project or the results. Attempts made to answer most questions.		Explanations show solid understanding of the background physics, the project and the results. Attempts are made to answer all questions.	The student can confidently and accurately explain all aspects of the project and background physics. Answers are given to all questions.	The extent and delivery of explanations are symptomatic of deep understanding of the project and background physics. Confident and concise answers are given to all questions.	As before, but the depth of understanding and proficiency extends to the existing literature, state-of-the-art and implications of the results. At the standard expected of a professional researcher.