

Projects in Theoretical Physics: Assessment criteria for final reports

10 ECTS Credit Points - PHYC40900

The final module grade is based on:

- written thesis (70%)
- oral presentation & defence (30%)

The project report should meet all the criteria described below to a satisfactory level. The grade assigned depends on the extent to which the criteria have been met. The 4 main categories below carry equal weight towards the final grade.

Definition of research scope and goals

- The research scope has been defined
- The goals of the project are evident from the report
- The research questions and hypotheses are evident from the report

Command of the topic

- The student demonstrates command of the topic and understanding of the scope of research
- The student demonstrates understanding of the relevant theoretical framework
- The student demonstrates skills in making use of literature and other sources of information

Methods, conclusions

- The student defends the chosen research methodology
- The project report contains references to relevant scientific publications
- The student demonstrates ability to apply the chosen methods to obtain results
- The project report presents well-founded conclusions drawn from the results
- The conclusions answer the research questions presented

Report structure, presentation, language

- The report is a well-organised logical whole
- The report contains no structural, grammatical or spelling errors that complicate reading
- The report is written in coherent, formal style

Criteria by grade

The broad descriptions below outline the extent to which the project report must meet the above criteria to merit a specific grade. An individual report may contain characteristics of several different grade descriptions; it is the overall quality that determines the final grade.

Extraordinary (A+ ; >= 90%)

A report of extraordinary quality demonstrating strong skills in creating or applying technical or scientific knowledge. More specifically:

Definition of the research scope and goals:

The goals are presented clearly, and the research scope is clearly defined, which indicates deep understanding of the topic. The goals are set high but are attainable.

Command of the topic:

The cited works have been selected not only appropriately but critically; the bibliography contains references to most important relevant papers on the subject. In addition, the student demonstrates deep understanding of the research topic.

Methods and conclusions:

The student demonstrates command of the relevant research methods, uses appropriate and justified methods, reports the research process and the methods accurately and precisely and justifies the choices made. The line of reasoning behind the conclusions is particularly clear, accurate and critical and proves that the student has gained a deep understanding of the topic. The research results provide thorough answers to the posed research questions.

Contribution to knowledge and project report structure:

The results meet the standards of international conference publications, even though it is not necessary that the project report contribute to new scientific knowledge. The results are of interest to academia or industry or otherwise relevant to professionals in the field. The student has worked very independently on the project report, while the contributions of the instructor and supervisor have been minor.

Presentation and language:

The appearance, presentation and language of the project report are impeccable.

Excellent (A-, A ; 70-89%)

A high quality project report which meets all the basic requirements of a good project report. More specifically:

Definition of the research scope and goals:

The goals and scope have been successfully and clearly defined in an appropriate manner.

Command of the topic:

The project report combines the cited works and empirical data consistently and clearly. The cited works consist primarily of high-quality scientific publications, which are sufficiently numerous and appropriately chosen. The student demonstrates good command of the research topic.

Methods and conclusions:

Appropriate methods have been used in a well-founded manner. The research process has been described at least on a general level while the transferability of the results has been evaluated to some extent. The empirical data has been presented well and its relevance to the results is clear. The empirical data is sufficiently extensive to justify the conclusions drawn, and the line of reasoning behind the conclusions is easily followed.

Contribution to knowledge and project report structure:

The results are of theoretical interest or have practical relevance, and they answer the research questions.

Presentation and language:

The project report is a consistent written presentation of the topic and, for instance, the referencing is correct and consistent. The project report is a coherent and balanced whole.

Very Good (B-,B,B+ ; 60-69%):

A well-structured and independently written master's project report. The project report has all the necessary elements, but no particular merits. The examiner's report identifies definite needs for improvement. More specifically:

Definition of the research scope and goals:

The goals have been somewhat clearly defined in a primarily appropriate manner. The project hypothesis is clear.

Command of the topic:

The student demonstrates good command of the relevant literature and background material, and has applied them appropriately, but the connection between the background material and the empirical data is not necessarily made sufficiently explicit.

Methods and conclusions:

The methods and the experiments are adequate and justified. The methods have been chosen in accordance with the prevailing practice; they have been used correctly and reported. However, a critical evaluation of the methodology is not a requirement for this grade. The conclusions have been drawn appropriately from the material.

Contribution to knowledge and project report structure:

The project report produces reliable results using the chosen methods in a suitable manner. It also answers the posed research question or reaches the goal set for it. Contribution to knowledge is identifiable, and the topic is at least of some interest to academia or industry. The report has mostly progressed in accordance with the project hypothesis.

Presentation and language:

The report structure has no major weaknesses; it is well-organised and serves its purpose. The project report uses appropriate language, and satisfactory attention has been paid to the overall appearance of the report.

Good (C-,C,C+ ; 50-59%)

An acceptable project report with significant shortcomings in areas such as discussing the topic, the results, scheduling, structure, language or overall appearance of the project report. The grade may also be lowered if the student has required a disproportionate amount of supervisor or instructor support. The project report has shortcomings in the following:

Definition of the research scope and goals:

The scope is narrow and vaguely defined, and the project report may not answer the research questions. Both the goals and the project report proposal are vaguely defined.

Command of the topic:

The references are few or of poor scientific quality. There are notable shortcomings in the referencing. Source evaluation is lacking and the bibliography contains errors.

Methods and conclusions:

The empirical data is scarce or there are shortcomings in its collection or analysis. Critical analysis is scarce or non-existent. Although methodological choices have been made, methods are used inconsistently. The conclusions drawn are few and may even contain factual errors.

Contribution to knowledge and project report structure:

The goals and results of the project report contradict each other, and the student may have difficulties in comprehending the goal or scope of the research or in defining the research questions. The project report may also depend excessively on the cited works, i.e. the results are not based on independent research but rather on the references. The topic has little significance for the field of research or industry in question or no contribution to knowledge can be clearly identified in the project report.

Presentation and language:

The project report is not a coherent, well-organised whole, its parts are out of balance or it 'meanders'. It contains inconsistencies, unexplained conclusions or even factual errors.

Satisfactory (D-,D,D+ ; 40-49%):

A poor project report with significant shortcomings in meeting the basic requirements; however the project report does meet the minimum requirements in terms of discussing the topic and the reporting practices. Completing the project report has required a great deal of either instructor or supervisor support. In spite of being advised to do so, the student has failed to correct the shortcomings. Serious shortcomings include:

Definition of the research scope and goals:

The goals are unclear and it is evident that the student has not fully understood the purpose of the master's project report.

Command of the topic:

The references are too few, they are of poor scientific quality or ill-suited for the project report. There are significant shortcomings in the command and referencing of the literature and prior research on the topic, and the bibliography contains errors.

Methods and conclusions:

The choices of methodology and material are inappropriate or poor. The chosen method has been applied erroneously. The empirical data is scarce or ill-suited for the purposes of the project report. The conclusions are few and poorly founded.

Contribution to knowledge and project report structure:

The student does not demonstrate ability to conduct independent research. The project report is excessively dependent on the references or does not explain the results. The topic is irrelevant for the field of research or industry in question and no contribution to knowledge can be identified. The time taken to complete the project report was disproportionate to the difficulty of the topic.

Presentation and language:

There are significant shortcomings in the structure and language of the project report; it is difficult to read and the line of reasoning is difficult to follow. The project report shall not be passed if it has a lot of significant shortcomings and thus fails to meet the minimum requirements for an approved master's project report.

Unacceptable (F):

Fails to meet the above criteria.