

Name of the student

Student number

Project title

Grade for general aspects

Grade for scientific aspects

* Has the report been checked for plagiarism?

Research group(s)

Course code

201800323 (15 EC)

Date of final presentation

Assessment committee

	Name	Signature
Chairman ¹		
Reference teacher ²		
Reference teacher ²		
Daily supervisor		
Additional member (optional)		
Additional member (optional)		

Explanation

How to use this form:

- Fill out the student name, - number, title of the project, research group and date of the presentation.
- The assessment committee must consist of a member of an AM research group and an APH research group and must meet both the conditions imposed on the committee by the APH BSc study program and the AM Bsc study program³;
- For each evaluation point, describe the most relevant positive points and suggestions for improvement; The assessment form serves as a basis for the two grades and also as feedback for the student.
- Use the course information and test scheme as guidelines to reach the two grades: One grade for general aspects, one grade for scientific aspects of the assignment. Both grades should be given to one decimal place. The average of these grades form the final result for the assignment.
- Make a copy of the completed form for the student and the research group(s) (it can also be sent by email later).
- The chairman takes care of sending the form to BOZ-TN (boz-tn-ces@utwente.nl), BOZ-AM (boz-tw-ces@utwente.nl) and tn-tnw@utwente.nl. BOZ-TN will register the results.

* The student has the responsibility to somehow provide evidence that the report has been checked for plagiarism. For more information, contact the program coordinator Applied Physics.

¹ Responsible teacher (UD, UHD, Prof.)

² Reference teacher (UD, UHD, Prof.) The reference must be from another research group as the responsible teacher’s group.

³ The conditions imposed on the assessment committee of APH are listed in the “[regels van de examencommissie van de bacheloropleiding Technische Natuurkunde](#)” the conditions imposed of the assessment committee of AM are listed in the “[Rules & Guidelines as adopted by the EEMCS Examination Board](#)”

General aspects

Evaluation points	Remarks and feedback
Reporting	Positive points: Suggestions for improvement:
Verbal presentation & discussion	Positive points: Suggestions for improvement:
Research attitude	Positive points: Suggestions for improvement:
Professional communication	Positive points: Suggestions for improvement:
Research independence	Positive points: Suggestions for improvement:

Scientific aspects

Research plan and context	Positive points: Suggestions for improvement:
Theoretical and/or experimental skills	Positive points: Suggestions for improvement:
Analysis skills	Positive points: Suggestions for improvement:
Scientific approach & handling of complexity	Positive points: Suggestions for improvement:

Test scheme bachelor's assignment

Module level		Osiris level			Subject level		
Topic	min. grade	Subject	min. grade	Weight	Subject ⁴	Way of assessment	Weight (Approximately)
Bachelor's assignment	≥ 5,5	General aspects	≥ 5,5	50%	Learning objective 1	Progress meeting with supervisor(s)	10%
					Learning objective 2	Attitude during the assignment and meetings	20%
					Learning objective 3	Observation from the supervisor(s)	10%
					Learning objective 4	Report	30%
					Learning objective 5	Presentation and discussion	20%
					Learning objective 6	Context in report and presentation	10%
		Scientific Aspects	≥ 5,5	50%	Learning objective 7	Context in report and presentation	20%
					Learning objective 8	Observation supervisor(s); report; presentation	80%

⁴ The learning objectives are specified on the last page.

<p style="text-align: center;">Learning objectives</p> <p>After finishing the bachelor’s assignment, the student is able to:</p>	<p style="text-align: center;">Way of assessment</p>	<p style="text-align: center;">Weight <i>(Approximately)</i></p>
<p>1. Organize and plan a research project combining Applied Mathematics and Applied Physics disciplines, from problem analysis to inclusion of feedback.</p>	<p>Progress meeting with supervisor(s)</p>	<p style="text-align: center;">5%</p>
<p>2. Demonstrate independence in the preparation and implementation of a research project, including use of critical scientific thinking.</p>	<p>Attitude during the assignment and meetings</p>	<p style="text-align: center;">10%</p>
<p>3. Function professionally, in terms of communication with other students and teachers, as well as collaborate within the research community.</p>	<p>Observation from the supervisor(s)</p>	<p style="text-align: center;">5%</p>
<p>4. Provide a clear, structured, content-based, written report</p>	<p>Report</p>	<p style="text-align: center;">15%</p>
<p>5. Verbally present his/her research, through a clear, structured, content-based presentation, including discussion and questions/answers with a scientific audience (other students, graders, etc).</p>	<p>Presentation and discussion</p>	<p style="text-align: center;">10%</p>
<p>6. Place his/her research in a social context, as well as take into account safety, environmental, and ethical issues.</p>	<p>Context in report and presentation</p>	<p style="text-align: center;">5%</p>
<p>7. Gather, select and process relevant scientific information with the use of concept and theories from the relevant field, including state of the art.</p>	<p>Context in report and presentation</p>	<p style="text-align: center;">10%</p>
<p>8. Conduct Applied Mathematics and Applied Physics research at the level expected of a final year BSc student, including using a systematic/logical approach to: Problem analysis, formulation of research question, theoretical and/or experimental methods, data collection, and analysis (including computations where necessary); and to be able to explain, with reasoning, why these approaches have been chosen.</p>	<p>Observation supervisor(s); report; presentation</p>	<p style="text-align: center;">40%</p>

Learning objectives 1 to 6 determine the general aspects (=50%); learning objectives 7 and 8 determine the scientific aspects of the assignment (=50%).

Course information

Course description

The Double Bachelor program in Applied Mathematics & Applied Physics ends with the bachelor's assignment.

The bachelor's assignment is a research assignment of sufficient scope and complexity for both the AM and APh program. The conducted research contributes to the scientific literature. The student shows that (s)he is a critical and independent researcher who can communicate the results to fellow students in writing and verbally.

This allows the student to apply the knowledge and skills gained from experiments, use of theoretical models, data analysis and verbal and written presentations throughout the entire Bachelor degree to a real area of research.

Course content

The student is responsible for contacting a research group. The assignment then begins with an introduction and a literature study. Then the student must design a suitable research proposal (the research group will help with the latter) and make a planning. This enables the student, with appropriate supervision, to address the research question.

Before the student starts the assignment, (s)he must submit the assignment description and the names of the members of the graduation committee (supervisors) to the coordinator of the AM Bachelor's Assignment. In addition, for the study program Applied Physics (APh) the student must also register the graduation in Mobility Online.

The research proposal must contain sufficient scope and complexity to satisfy the requirements of a bachelor's assignment. It also fits within the framework of ongoing scientific research of the host research group. Throughout the project, the student discusses progress with the supervisor and teacher and adjusts the future direction as appropriate.

The Bachelor assignment ends with a written report in the form of a scientific article, a 5 minute pitch and poster at the Bachelor Conference for AM and a verbal presentation, at the level expected of B3-students of AM & APh.

Assessment is done by the entire assessment committee.