

Responsibilities and tasks Bachelor's assignment Applied Physics***Content of the bachelor's assignment*** (Technische Natuurkunde UT, 2023)

The bachelor's assignment completes the bachelor's programme in Applied Physics. It offers the student the opportunity to apply knowledge and skills acquired in the bachelor phase of the course in the field of experimentation, use of theoretical models, data analysis and oral and written presentation in a research project of some size.

Learning objectives of the bachelor's assignment

After completing the bachelor's assignment, the student is able to;

General aspects:

- to organize and plan an investigation effectively, from problem analysis to feedback,
- to demonstrate sufficient independence in the preparation and implementation of research and to adopt a scientifically critical working attitude,
- to function professionally: to communicate clearly with fellow students and supervisors, to collaborate in the research group and to communicate with others from within and outside the Applied Physics community,
- to report adequately in writing about the research, through a substantively structured, clearly written report,
- to adequately present the research orally through a substantively structured and clear argument and to discuss it in front of fellow students and colleagues,
- when forming judgments about the results, pay attention to the social context, any safety and environmental implications and the scientific and/or ethical aspects.

Physics aspects:

- to acquire, select and process scientific information for research, making adequate use of concepts and theories from the relevant field that are in line with the latest developments,
- to conduct technical physics research in accordance with the final level of the bachelor's programme. The student has the knowledge and skills to conduct scientific research in a systematic manner, consisting of; problem analysis, formulation of research objective, theoretical and experimental approach, implementation and result analysis, involving the application of mathematical tools (including computers). The student makes substantiated choices in carrying out the research.

Execution of the bachelor's assignment (Technische Natuurkunde UT, 2024)

The bachelor's assignment is a research project worth 15 EC (maximum 420 hours/10 full-time weeks) and must be carried out in a research group or in a company that conducts research within the physics domain. The bachelor's assignment is an individual assignment, the presentation and report are in English. The bachelor's assignment brings together the knowledge and skills, as stated in the intended learning outcomes of the programme. (Technische Natuurkunde -UT, 2023)

Project plan

During the previous course Preparation Bachelor's Assignment (PBA), the student looks for a bachelor's assignment. Before the start of the bachelor's assignment, the student makes a project plan including planning. This planning is discussed and approved by the daily supervisor and chair of the bachelor's assignment committee. (Technische Natuurkunde UT)

Duties and responsibilities of the student (Technische Natuurkunde UT, 2024)***Prior to the bachelor's assignment;***

- Searching for a bachelor's assignment during the Bachelor's Assignment Preparation course.
- Drawing up a project plan including planning. The project plan must be completed and approved by the daily supervisor and chairman of the bachelor's assignment committee no later than one week before the start of the assignment.

During the bachelor's assignment;

- Analyzing a problem with some complexity using technical and analytical skills acquired during the bachelor's programme in Applied Physics.
- An experimental or theoretical research in the physics and/or technological field prepare, execute and analyze .
- Write an English scientific report describing the result.
- An oral English presentation of the results to an audience of fellow students and can answer questions about the topic.
- Independently organize and plan the work.
- Monitor progress and discuss it with the daily supervisor.
- Organizing 1 progress meeting with the entire bachelor's assignment committee, halfway through the assignment.
- Collaborate and interact with the staff of a research group.
- Planning and organizing the bachelor assignment presentation. (Possibly with the help of the department secretariat.)

Duties and responsibilities of the daily supervisor

The daily supervisor guides the student in carrying out the bachelor's assignment. This person is a member of the research group in which the bachelor's assignment is carried out.

The daily supervisor;

- has a sufficient academic level to supervise a physics bachelor's assignment.
- has sufficient knowledge of the subject of the bachelor's assignment to supervise it.
- is competent for guiding and coaching students in the field of content, research, design, writing, etc.
- ensures a good workplace for the student and supplies to carry out the assignment.
- is co-responsible for a feasible assignment and helps the student to draw up a realistic project plan before the start of the bachelor's assignment.
- is readily available to the student during the execution of the bachelor's assignment

- discusses the progress of the assignment with the student at least once a week.
- Takes a seat in the progress meeting with the entire Bachelor's assignment committee halfway through the Bachelor's assignment, in which progress is discussed on the basis of the [Bachelor's assessment form](#).
- monitors, with the student, the scope and planning of the assignment and makes adjustments where necessary.
- provides input on the student's planning, implementation, work attitude, critical thinking and communication during the assessment.

Duties and responsibilities of the chair (Bachelor examencommissie Technische Natuurkunde, 2024)

The chairman of the bachelor's assignment committee works in the UT department within the discipline (Applied) Physics in which the assignment is carried out. See the [Rules of the Examination Board for the Bachelor's programme in Applied Physics and the Master's programme in Applied Physics](#) for the conditions that the chairman must meet.

The chairman can also have the role of daily supervisor.

The chair;

- is the responsible main examiner of the bachelor's assignment.
- is responsible for the substantive aspects and the technical/physics level of the assignment.
- has substantive knowledge about the subject of the bachelor's assignment
- is responsible for the student's workplace and the supplies needed to carry out the assignment.
- is responsible for cooperation within the bachelor's assignment committee
- takes a seat in the progress meeting with the entire Bachelor's assignment committee halfway through the Bachelor's assignment, in which progress is discussed on the basis of the [Bachelor's assessment form](#).
- is responsible for the progress of the bachelor's assignment
- is skilled in assessing written reports, oral presentations and general technical skills (problem solving, analysis, planning, collaboration, etc.) at an academic level.
- Together with the members of the bachelor's assignment committee, assesses the implementation of the bachelor's assignment on the basis of the learning objectives and the assessment plan of the bachelor's assignment immediately after the bachelor's assignment presentation.
- is responsible for correctly completing and processing the bachelor assignment assessment form.

Duties and responsibilities of the reference member

The reference member is a member of one of the research groups or training staff belonging to the discipline of Applied Physics within the Faculty of Applied Sciences and does not belong to the group where the assignment is carried out. See the [Rules of the Examination Board for the Bachelor's programme in Applied Physics and the Master's programme in Applied Physics](#) for the conditions that the reference member must meet.

The reference member has experience in assessing TN bachelor assignments and uses that knowledge to ensure the correct level of assessment of the student. The reference member role ensures the calibration of the TN bachelor assignment results.

The reference member;

- is assigned to the bachelor's assignment committee by the programme director at the start of the bachelor's assignment.

- has knowledge within the domain of (technical) physics and of the Applied Physics programme and course.
- is skilled in assessing written reports, oral presentations and general technical skills (problem solving, analysis, planning, collaboration, etc.) at an academic level.
- when assessing the bachelor's assignment, pay particular attention to the level, execution and calibration with other bachelor's assignment results.

References

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