

***Rules of the board of examiners
of the bachelor's programme
Technische Natuurkunde and the
master's programma Applied Physics
(art. 7.12 WHW)***

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Preambulary

1. In line with article 7.12b WHW, the board of examiners establishes guidelines and instructions within the framework of the education and examination regulations to assess and determine the results of tests and examinations. The examination committee lays down rules on the execution of its duties and powers and on the measures it can take.
2. These rules and guidelines apply to the Bachelor's programme in Applied Physics and Master's programme in Applied Physics at the University of Twente.
3. In case of differences between the Dutch and English versions, The Dutch version will be decisive.

Definitions

In addition to the definitions in article 1 of the general part of the study programme section of the Students' Charter including the Education and Examination Regulations (EER) of the Bachelor's programmes of the TNW faculty, in these rules and guidelines of the Board of examiners the following terms are defined:

Project:	study unit (or part of a study unit) integrating different subject areas.
Substitute study unit:	entire study unit, or part thereof, that does not initially appear in the student's core programme, but whose educational objectives and scope correspond to the original study unit.
Educational programme:	coherent set of educational units with a total size of 180 EC in the bachelor's curriculum and 120 EC in the master's curriculum, which fully covers the intended learning outcomes of the programme and is concluded with an examination.
Core programme:	set of units of study that belong to the programme as standard and apply to all students.
UTQ:	University teaching qualification

Article 1 The board of examiners

1. The board of examiners nominates one of its members to be chairperson and another member to be secretary.
2. The board of examiners may be assisted by programme staff, for example the programme director, the programme coordinator, study advisor and tutors. They have an advisory role in the meetings.
3. The board of examiners may ask for advice from study advisors and student counsellors regarding decisions to be made concerning individual students; in which case the information provided about the student will be regarded as strictly confidential.
4. The board of examiners may decide to confer some of its authority, if necessary with certain constraints and conditions, on the chairperson or the secretary, provided that this is not in conflict with the law or these rules.
5. A staff member of the Centre for Educational Support (CES-SAL) will attend the meetings of the board of examiners as clerk.
6. Board of examiners meetings are closed.
7. The board of examiners uses a set of rules which define (1) the composition, (2) the working methods, (3) delegation of responsibilities to the chairperson and the secretary, and (4) the division of duties with respect to the supervision of testing.

Article 2 Examiners

1. For the purpose of holding examinations, the board of examiners appoints one or more examiners for each part of an examination, and in the case of several examiners, one of them is chosen as head examiner.
2. The examiners provide the board of examiners with the requested information.
3. For the assessment of the internship, a multidisciplinary project or Capita Selecta educational units, examiners on the list of approved examiners can give grades without prior approval in case the subjects are part of their expertise.
4. A [list of approved examiners](#) for Applied Physics is published on the programme's website.

Article 3 Contents of examination and methods of testing

1. Before an examiner administers a written test, at least one other competent teacher shall assess whether the proposed test is sufficiently representative, whether the questions are unambiguous and whether the level of difficulty is appropriate to that of the teaching given.
2. The description in the education catalogue specifies whether the final assessment of a study unit is written, oral or in another way. If the result of a study unit consists of several parts that are tested at different times or in different ways, this assessment plan shall be announced before the course starts.
3. By mutual agreement between student and examiner, a test may be taken in a different manner than stipulated in the second paragraph of this article. The examination committee shall be informed of the change by the examiner.
4. The examiner who wants to offer an extra test opportunity or supplement to students may obtain permission from the board of examiners. The authority to decide on this and to find a suitable time in the schedule is mandated to the programme director. The programme director must inform the examination committee at the next examination meeting after a decision has been taken.
5. At the request of a student, the examination committee may allow an examination to be held in a different format than stipulated in the second paragraph of this article.

Article 4 Written and oral examinations

1. A written test lasts a maximum of 3 hours; an oral test a maximum of 1½ hours. For students with a functional impairment, this may be deviated from in accordance with article 7.1 of the general section of the TNW Faculty's Bachelor's and Master's EER.
2. The assessment of a written examination takes place on the basis of pre-set norms for the different exercises or parts of exercises of the examination. The maximum number of points that can be obtained for each question in a written examination is made known to the students by mentioning it next to the exercises.
3. The oral examination is public. The provisions of article 3.7 of the general part of the Bachelor EER and article 4.6 of the general part of the Master EER of the faculty of TNW apply.
4. The examiner cannot orally test more than one student at a time, unless otherwise mutually agreed between examiner and students concerned.
5. In the case of project and group tests, students may be jointly examined orally.

Article 5 Order during exams

1. For each written test, one or more invigilators shall be appointed by the examiner to ensure that the test session proceeds in good order.
2. Only students registered for the study unit and/or the test(s) of the study unit via Osiris are entitled to participate in the test(s) of the study unit.
3. During a test session, all electronic devices and applications must be switched off, except those for which the examiner has given explicit permission to use them.
4. During a test, the student must identify himself with college card or a valid ID, which is visible on the table at which the candidate is taking the test.
5. On all materials to be handed in, the student shall indicate name and student number at the start of the test.

Article 6 Fraud

1. Fraud means:
 - a. Using in a test more or different aids than those which the examiner announced before the test that they were permitted.
 - b. Using aids, resources or help with a test or providing aids or help which the student knew or should have known were not permitted. This includes in any case:
 - i. Cheating while taking a test, whether or not:
 - using unauthorised means such as: books, cheat sheets, electronic equipment.
 - by cheating or having cheated
 - while the work has not yet been submitted, discussing the test material with others than the invigilators
 - ii. Forgery.
 - iii. Artificial intelligence applications
 - c. Behaviour which the examiner, or the invigilator on its behalf, has characterised as fraudulent to students prior to the administration of the test, and which specifies the measures that will be imposed if such behaviour is identified..
 - d. Plagiarism.
2. The examination committee should always be informed by the examiner and/or the programme director of a possible case of fraud. Having heard all parties involved, the examination committee may take appropriate measures.
3. If a student or course participant or fraudulent, the board of examiners may deny the student the right to take one or more tests or examinations for a period to be determined by the board of examiners, which period shall not exceed one year. In case of serious fraud, the board of the institution may, at the suggestion of the board of examiners, permanently terminate the enrolment of the student, course participant or external student (art.7.12b paragraph 2 WHW).

4. The study unit in which the fraud was detected will not be assessed. The individual will not receive a grade.
5. If the study unit in which fraud was committed in an earlier instance is still being examined, the examination committee may also impose, where appropriate, the manner in which the relevant course is examined on the student.

Article 7 Rules in the event of an emergency

1. The Executive Board, or the building manager on their behalf, establishes whether there is an emergency or an imminent emergency.
2. Once this has been established, (a part of) the building is evacuated in compliance with the corresponding rules that are in force.
3. The examination committee shall be informed by the examiner of the calamity referred to in paragraph 1 within one working day, in case the calamity occurred during examination.
4. If calamities occur or threaten to occur during or shortly before a test, the following shall apply:
 - a. If a calamity is to be expected before the start of a test, the test will be postponed with immediate effect.
 - b. In consultation with the study programme director and the examination committee, the examiner will set a new test moment.
 - c. The result of the newly determined test moment, which takes place within one month (not including the holiday months), is binding.
5. If a calamity occurs or can be expected during a test, the following action should be taken, if possible:
 - a. All test work has the student's name and student number written on it at the start of the test.
 - b. Those present should leave the test room immediately on the order of the responsible authority or invigilator.
 - c. Students shall leave the completed test work in the test room.
6. The programme director is responsible for dealing with a test that has been cancelled or postponed due to an emergency or impending emergency.
7. The examination committee may determine that, if reasonably possible, the examiner will determine the final grade on the basis of the submitted (partially) completed assignments, if the students had the opportunity to start the test already.
8. If the examination committee decides that the examiner cannot determine a final mark on the grounds of paragraph 7, a replacement test will be organised within one month (not counting holidays) after the test that was cancelled due to a calamity, for those students who were registered for the test in question via Osiris.

Article 8 Registration and publication of the examination results

1. In accordance with Article 1.2 of the general section of the education and examination regulations and Article 7.12c WHW, the examination result of units of study is determined by the examiner.
2. If an examination of a study unit is taken in several parts spread over time (tests), the examiner records the results of these parts in his own administration without rounding off. The results are announced by the examiner to the students involved with due regard for the student's privacy..
3. Where the assessment of a written test results in a grade ≥ 4.5 and < 5.5 , at the student's request the work may be assessed by a second examiner. If after consultation between the two examiners a difference in assessment arises, the grade shall be determined on the basis of the average of the two assessments.
4. The assessments of a study unit are usually expressed in grades as described in Art. 3.3 paragraph 5 of the general section of the education and examination regulations.

5. On the grade list and in the student information system, an exemption for a study unit is indicated by 'EX'.
6. On the grade list and in the student information system, a study unit, for which not all conditions are met, the result of the relevant test is given the award 'F' (fail).
7. In accordance with Article 3.3 paragraph 9 of the general part of the Bachelor's EER and Article 4.3 paragraph 9 of the general part of the Master's EER of the S&T faculty, the highest assessment applies if a student has obtained several valid assessments for the same part of a study unit.

Article 9 Free educational programme

A student may be granted admission to take the Bachelor's and Master's examinations on the basis of an educational programme of educational units proposed by the student himself (a free educational programme as referred to in Article 2.4 of the general part of the Bachelor's EER, Article 3.4 of the general part of the Master's EER of the faculty of S&T and Article 7.3j WHW), provided this programme has been approved in advance by the board of examiners.

The following conditions apply here for the TN bachelor's programme:

- The total size of the curriculum is at least 180 EC.
- It contains 90 EC of teaching units from the B1 and B2 phases.
- It includes a bachelor's assignment with a nominal study load of at least 15 EC.

The following conditions apply here for the AP master's programme:

- The total size of the education programme is at least 120 EC.
- It includes a master's assignment with a study load of at least 40 EC.

Article 9a Elective courses, courses outside UT, adaptation of curriculum

1. Permission from the board of examiners is required for the inclusion of units of study in the curriculum that are not part of the core curriculum of the own programme. This also applies to the filling of elective space.
2. The request must be made stating the code of the study unit, as officially registered at the institution where the study unit is taken.
3. The request must be accompanied by course information on the study unit, including in any case information such as the study load (in EC), learning objectives, testing methods and the study materials used.
4. After completion of a study unit a certified certificate must be handed in, showing that the study unit has been successfully completed. This certificate must unambiguously state the registration code, the name of the study unit, the number of EC and the grade.
5. The grading for the study unit is translated into the applicable grading for the study programme, taking into account article 3.3 section 7 of the general part of the Bachelor's EER and article 4.3 section 7 of the general part of the Master's EER of the TNW faculty and the conversion tables available at the International Office. This translation is ratified by the chairman and secretary of the board of examiners. In Osiris the following will be registered:
 - The registration code as used by the institution where the course was completed.
 - The name of the study unit.
 - The size of the study unit in EC.
 - The institution and programme to which this course belongs.
 - The translated and validated grading for the course.
6. A double programme consists of two core programmes, covering the domain-specific learning outcomes of the individual programmes, and the remaining programme consisting of the Bachelor's or Master's degree and electives. A study unit only contributes to one core programme; in case a study unit is part of the programmes of both programmes, it is counted under the core programme that is most applicable.

7. The curriculum may be extended with additional units of study that have been successfully completed. These units may not overlap with other parts of the curriculum. Paragraphs 1 to 3 of this article apply here.
These units of study are extra-curricular units included in the student's study programme and contribute to the statistics of the study programme.
8. Successfully completed study unit which are not part of the core programme may be included in the curriculum as replacement units if the learning goals of the unit of study correspond to the study unit to be replaced and if the study unit is not part of any other curriculum which has led to a diploma. For the inclusion of substitute units in the curriculum, paragraphs 1 to 5 apply. Exemptions may be granted based on acquired knowledge and skills, if these cannot be marked.

Artikel 9b Minors and overlap

This article applies specifically to undergraduate TN

1. The UT minor choice tool should be seen as a guideline for filling the minor space.
2. Parts of minors that overlap with education from the student's core programme may be replaced by other units of study. Up to a maximum of 3 EC overlap may be allowed based on a justified request.
3. The minor space can be used to fulfil a pre-master's programme. To this end, the student shall submit a request for a programme consisting of units of study of 30 EC. This request must be supported by a signed approval from the person responsible for admission to the master's programme in question.

Article 10a Examination results bachelor's programme

1. The result will be pass or fail. If the student is rejected, the examination committee may grant the student the right to be re-examined in one or more components within a specified period.
2. The board of examiners determines on which day the examination result of the Bachelor's examination will be dated. The provisions in article 4.2 section 2 and section 4 of the general section of the EER apply in this respect.
3. The student who meets each of the following conditions has passed the bachelor's examination (WHW Art. 7.12b paragraph 3):
 - A. A student of cohort 2013-2014 and later and a student from previous cohorts who has been transferred to the programme of 2013-2014 or later has passed the bachelor's examination if each of the following conditions is met (WHW art.7.12b paragraph 3):
 - a. all the exam parts from the programme have been assessed;
 - b. none of the examination components has been assessed with a valid result lower than a six or with an F (Fail/not met te requirements).
 - B. A student of cohort 2012-2013 and earlier who has not been transferred to the programme of 2013-2014 or later has passed the bachelor's examination if each of the following conditions is met (WHW art.7.12b paragraph 3):
 - a. The student has passed the propaedeutic exam or has passed all exam components with a total size of 60 EC in the B1 phase where the following conditions apply:
 - i. a passing grade has been obtained for all examinations listed in groups A, B, C and D in article 4 of the programme appendix of the EER of 1 September 2012;
 - ii. a fail mark of 5 has been obtained for at most two examination parts where these fail marks do not both occur within the same group and where the average mark within both group A and group B is 6.0 or higher.
 - b. the student has passed all examination parts with a total of 120 EC from the programme in the B2 and B3 phases whereby the following values apply:
 - i. all exam parts in the B2 and B3 phase have been assessed;
 - ii. none of the exam parts in the B2 and B3 phase has been assessed with a grade lower than 5;

- iii. the bachelor assignment or any substitute internship has been graded with a grade of 6.0 or higher;
 - iv. at most two examinations in the B2 and B3 phase have been passed with an insufficient grade of 5 and the average of the grades from the B2 and B3 phase is not lower than 6.0;
4. The provisions in paragraph 3 of this article also apply to a free education programme as described in Article 9 of these rules.
 5. The decisions of the board of examiners and the results of votes held are recorded in the minutes of the meeting.

Article 10b Examination results master's programme

1. Students who meet all of the following conditions have passed the Master's final examination (WHW Art. 7.10 paragraph 2):
 - a All units of study of the programme have been assessed by appointed examiners.
 - b None of the units of study have been assessed with a grade lower than 6¹.
2. The board of examiners determines on which day the examination results of the Master's final examination are dated. This is normally the date of the last study unit that was passed.
3. A student has the right to submit a substantiated written request to the board of examiners to delay the graduation date and consequently the presentation of the certificate (WHW Art.7.11 paragraph 3, general section MSc EER Art. 5.2 paragraph 3). In this request the student must at least indicate the desired duration of the delay. In case the student requests for a delay of the final examination, the new graduation date will be determined by the board of examiners.
4. The provision in paragraph 1 of this article also applies in case of an elective curriculum as outlined in Article 9 of these rules.
5. Board of examiners rulings and results of votes held are recorded in the meeting's minutes.

Artikel 11a Outstanding ability bachelor's programme

On awarding the bachelor's diploma, the examination committee may award the judicium 'Cum Laude'. To qualify for the 'Cum Laude' distinction, the examination committee assesses the results of the entire educational programme, using the following provisions as a guideline:

1. The bachelor's assignment grade is greater than or equal to nine (9.0).
2. The weighted average of the grades of the educational units is greater than or equal to eight (8.0).
3. In the assessment of the educational units, no more than one grade is lower than a seven (7.0).
4. The average study speed is at least 60 EC per year considering:
 - a. Time spent participating in multi-disciplinary student teams (such as solar team) is not included in the study rate, with a maximum of 1 year.
 - b. Time spent participating in multi-disciplinary student teams for which ECs have been awarded does count towards the duration of study. This time is based on a study rate of 60 EC per year.
 - c. 75% of the time spent on participation in the management of a study association does not count towards the duration of study.

Artikel 11b Outstanding ability master's programme

1. During the graduation ceremony, the Master's certificate may be issued with the designation 'Cum Laude'. For this, the board of examiners assesses all results during the full Master's programme, using as a guideline the following conditions for qualifying for the designation

¹ For students of cohort 2023 and earlier, a maximum of 1 unit of study may be assessed with a 5, except for the internship and master's assignment. If the student wishes to make use of this, it must be indicated on the course list.

'cum laude':

- a. The average grade for the Master's Assignment sections is a 9.0 or higher;
 - b. The unweighted average grade for the other units of study of the Master's final examination is an 8.5 or higher²;
 - c. For calculation of the condition at b. only first attempt grades are used;
 - d. The average study speed is at least 60 EC per year considering:
 - i Time spent participating in multi-disciplinary student teams (such as solar team) is not included in the study rate, with a maximum of the official time of the multidisciplinary project.
 - ii Time spent participating in multi-disciplinary student teams for which ECs have been awarded does count towards the duration of study. This time is based on a study rate of 60 EC per year.
 - iii 75% of the time spent on participation in the board of a study association does not count towards the duration of study.
2. The procedure for the judicium of 'Cum Laude' is as follows:
- a. In case a student meets the guidelines of article 11b §1 or when article 11b § 3 is initiated, two certificates are prepared (one with and one without the designation) and the chair of the master assignment committee is informed about the status of the student.
 - b. After the defence of the master's assignment and the grading of the project, the graduation committee discusses the judicium of 'Cum Laude' of the candidate and comes to a decision.
 - c. In case 'Cum Laude' is granted, the certificate with the judicium of 'Cum Laude' is given to the student and the other one is sent back to CSA for destruction. Otherwise, the certificate without the designation is handed over to the student and the other is sent back for destruction.
 - d. Within one work week after the graduation with the judicium 'cum laude' awarded, the chair of the master assignment committee writes a letter of motivation supporting this distinction to the board of examiners.
3. In case the student does not meet the criteria mentioned in article 11b § 1, the chair of the master assignment committee can request the board of examiners before the colloquium to start the procedure written down in article 11b § 2.

Article 12a Bachelor's assignment committee

1. An bachelor's assignment committee is formed to guide and assess the bachelor assignment.
2. the bachelor assignment committee consists of at least two members who hold a PhD. The committee must meet the following conditions:
 - a. **Chair of the committee.**
 - i. The responsible teacher; he/she is a member of the research group where the assignment is carried out and is responsible for the content of the research, and;
 - ii. The chair is a professor, UHD or UD, and;
 - iii. Holds a UTQ³ or more than 10 years of working experience as a UD, and;
 - iv. Has a UT appointment of at least 0,5 fte
 - b. **A reference member:**
 - i. is a member of one of the research groups or programme staff belonging to the Applied Physics discipline within the S&T faculty and does not belong to the research department where the assignment is carried out, and;
 - ii. Is a professor, UHD or UD, and;

² In the case of a double master's programme, only the courses that contribute to the AP master's degree are included for the calculation of the average grade.

³ a deferral of the UTQ requirement is possible up to 3 years after appointment as a full professor, associate professor, university lecturer under the condition that the UTQ pathway has been started.

- iii. has a UTQ or more than 10 years of working experience as a UD
 - iv. has at least 1 year of experience teaching a TN or AP subject.
 - v. has a UT appointment of at least 0.5 fte
3. A list of examiners, chairmen and reference members approved by the board of examiners is updated once a year and published on the programme's website.
 4. **(optional) the daily supervisor** (this is usually the AIO supervisor); he/she places particular emphasis in the assessment on work attitude and professional functioning.
 5. Scientific experts from outside the discipline of Applied Physics or university may be part of the undergraduate assignment committee.
 6. It is possible to carry out the bachelor's assignment at another university or research institute provided that a reference member of the list of approved examiners acts as the chair of the master's assignment committee..

Article 12b Master's assignment committee and internship supervisor

1. A Master's assignment committee is composed for the supervision and assessment of the Master's Assignment.
2. The master's assignment committee consists of at least three members having a PhD degree. The committee must meet the following conditions:
 - a. Chair:
 - i. is a scientific member of the chair in which the student is doing the Master's Assignment,
 - ii. is a full professor, UHD, UD with UTQ² qualification (or has been a lecturer at UT for at least 10 years),
 - iii. has at least a 50% appointment at UT,
 - b. Daily supervisor: The student's daily supervisor during the Master's Assignment is a member of the committee.
 - c. Reference member
 - i. must be a member of a chair in the discipline Applied Physics other than the research department in which the Master's Assignment is carried out, and
 - ii. is a full professor, UHD, UD, and'
 - iii. has UTQ qualification or has been a lecturer (UD) at UT for at least 10 years,
 - iv. has been a lecturer of a TN or AP course for at least 1 year,
 - v. has at least a 50% appointment at UT,
 - vi. This reference member must be an approved examiner having a PhD degree; a [list of approved examiners](#) is provided on the programme website.
3. Academic specialists from outside the Applied Physics department or outside the university can be members of the master's assignment committee.
4. It is permitted to do the master's assignment at another university, research institute or company, provided that a reference member of the list of approved examiners acts as the chair of the master's assignment committee.
5. The composition of the master's assignment committee must be approved by the board of examiners.
6. The internship supervisor must comply to the same rules as the reference member in the master assignment committee.

Article 13 Bachelor's and master's final examination

1. The student applies for his final bachelor's examination or final master's examination by means of a completed and signed form, which can be found on the programme's website. This application can only be considered if the student already has an education programme approved by the board of examiners.

2. On behalf of the board of examiners, CES-SAL (BOZ) checks whether the applications meets the requirements and CES-SAL and submits them to the secretary of the board of examiners approval and signing.
3. The secretary of the board of examiners signs the application for as far as the are in line with the study programme approved by the board of examiners.

Article 14 Effectuation

These rules will come into effect on 1 September 2024 and replaces the rules;

- Rules of the Board of examiners Master's programme Applied Physics of 12 January 2021, and;
- Rules of the Board of examiners programme Technische Natuurkunde van 12 januari 2021

Established by the board of examiners for the bachelor's programme Technische Natuurkunde and master's programme Applied Physics,

Enschede, 4 juni 2024.