

Faculty: Engineering Technology (ET)

Master's programme
Mechanical Engineering (ME)
CROHO number: 60439

**The programme-specific part of the STUDENT CHARTER OF THE UT Article 7.59, WHW*
Education and Examination Regulations (OER**) Article 7.13, WHW**

2017 – 2018

Reference number: xxxxxxxxxxxxxxxxxxxxxx.

Approved by the Dean of the Faculty of Engineering Technology on 31 August 2017

* WHW = Wet op het hoger onderwijs en wetenschappelijk onderzoek = Higher Education and Research Act

** OER = Onderwijs- en examenregeling

FOREWORD

The Mechanical Engineering programme has chosen to embed the Education and Examination Regulations within the programme-specific part of the Student Charter on the basis of Article 7.59 of the [Dutch] Higher Education and Research Act (WHW). For general information, reference is made to the 'Student Charter of the UT, the institution-specific part'. For special possibilities within the study programme, reference is made where necessary to the education page of the Master's programme Mechanical Engineering (<http://www.utwente.nl/me>) and for information about course content to the 'OSIRIS course information'.

In this document the rules (rights and obligations of the programme and of the students) are reproduced. The core of these rules is that they apply to all students in general. On personal grounds, individual students have the right to request the examination board to take an action which deviates from the regulation. The examination board can also decide to take a general or an individual action which deviates from the regulation, provided that it is to the advantage of the student.

When the student does not agree with an action taken by the programme, or a procedure or decision of a teacher or assessor, the basis and the procedure for making an appeal are given in this regulation.

An adapted programme applies to students with a rounded-off previous education in a university of professional education (HBO) in the sector Engineering and Technology. This programme consists of a pre-master's part which leads to admission to the master's programme. The admission regulations are part of this Charter. Because the pre-master's programme consists of a selection of bachelor courses, the bachelor's Education and Examination Regulations (OER) apply for the programme.

The programme is provided within the Faculty of Engineering Technology (ET) at the University of Twente (UT) in Enschede, The Netherlands.

All master's students are informed by e-mail of the publication of the new Student Charter for Mechanical Engineering with a reference to the relevant web-site. Agreements made with potential students before the approval of the Student Charter, and which deviate from it, are respected.

The Student Charter 2017 for Mechanical Engineering is applicable to all master's students participating in the Master's programme in 2017/18 and to HBO-ers¹ who start the pre-master's programme in September 2017.

A. de Boer
Director of Education

¹ Students at or graduates of a [Dutch] university of professional education 'hogeschool'

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² Sometimes a colloquium is called a 'graduation presentation'.

1. GENERAL CONDITIONS

1.1 Applicability of the Regulation

- 1.1.1 This regulation applies to the education and the examinations of the master's programme in 'Mechanical Engineering', hereafter called: the programme.
- 1.1.2 The programme is provided under the responsibility of the Faculty of Engineering Technology at the University of Twente, hereafter called: the Faculty.
- 1.1.3 The final responsibility for the implementation of the education programme rests with the Director of Education and for admission and assessment with the Examination Board. A student who doubts whether he has been handled in conformance with the regulations can ask the Director of Education for clarification. It is always possible to appeal against a decision that has been taken.

1.2 Definition of terms

- 1.2.1 In this regulation terms have the following meanings:
 - a. **BOZ:** Education Affairs Office (Bureau Onderwijszaken), Engineering Technology (Mechanical Engineering), within the Unit S&O (student & educational services);
 - b. **Dean:** the Dean of the Faculty of Engineering Technology;
 - c. **Programme Council:** The Programme Council consists of chairmen of Departments and general professors in the Faculty, whose subject area(s) belong to the domain of mechanical engineering, as well as a member of the Board of the Faculty
 - d. **EC:** European Credit; a unit of study effort in which 1 EC matches 28 hours of effort; a course year is 1680 hours = 60 EC;
 - e. **Graduation examination:** An evaluation by which the Examination Board determines whether all examinations of the courses belonging to the programme have been passed (in conformation with Article 7.10 of the [Dutch] law);
 - f. **Examination Board:** The Examination Board of the programme constituted in conformation with Article 7.12 of the [Dutch] law;
 - g. **Examiner:** The person appointed by the Examination Board for conducting examinations, in conformation with Article 7.12 of the [Dutch] law;
 - i. **Faculty:** The Faculty of Engineering Technology (ET), University of Twente;
 - j. **Institution:** The University of Twente (UT);
 - k. **Management Team:** The Board of the Faculty of Engineering Technology;
 - l. **ME** Mechanical Engineering; this qualification prefixing, for example, student, programme, examination, etc is in many cases in this Charter hereafter omitted in the interests of readability. Sometimes the synonym WB (werktuigbouwkunde) is used;
 - m. **Programme:** The Mechanical Engineering programme (ME), University of Twente;
 - n. **Director of Education:** The Director of Education of the ME programme;
 - o. **Partner Institution:** An institution with which the university has a structural relationship for collaboration, in which the programme is active. For example the 4TU federation and the ECIU³-network (<http://www.eciu.org/>);

³ European Consortium for Innovative Universities

- p. **Student:** He or she who is registered as student at the University of Twente for the following of education and/or the taking of examinations of the 'Mechanical Engineering' programme, and who has completed the payment of (legal) tuition fees (Articles 7.32 and 7.34, WHW).
Wherever in this regulation the male gender is used, the female gender can also be understood;
- q. **Academic year:** The time period that begins on 1 September⁴ and ends on 31 August in the following calendar year;
- r. **Course:** A component of the study programme to which a course code is assigned;
- s. **Examination [tentamen]:** An inquiry into the knowledge, the insight and the skills of a student relating to a particular unit of education, as well as the assessment of that inquiry by at least one examiner designated by the Examination Board for that purpose;
- t. **Website:** The website www.utwente.nl/en/me ;
- u. **Working day:** Monday to Friday inclusive, with the exception of recognised holidays and leave days and/or holiday period approved by the UT;
- v. **Law:** The [Dutch] Higher Education and Research Act (WHW).

1.2.2 A student has the right to follow education and/or take examinations relating to the programme, provided he has satisfied the legal regulations in force (see 1.2.1p). Where someone has not (completely) met these requirements and at that moment still takes part in the education and/or examinations, this is regarded as irregular. Where applicable, the relevant registered student data can be removed from the administrative records and does not count for student progress nor for student grants and loans. Additional conditions can be placed on participation in the various education activities and examinations.

1.3 Emergencies

- 1.3.1 The University Board (CvB⁵) of the University of Twente or, on its behalf, the representative in the particular building, determines whether there is a (threatening) emergency. When this has been determined, (a part of) the relevant building will be evacuated according to the relevant procedures in force.
- 1.3.2 When such emergencies occur, or threaten to occur, during or just before an examination, the following procedures apply:
- Where an emergency is expected before the start of an examination, the examination is immediately postponed. In consultation with the Director of Education and/or the Education Affairs Office (BOZ), the responsible teacher determines a new time for the examination. The new confirmed examination time, that takes place within one month (exclusive of the vacation period), is obligatory. This is published within three working days using the usual media.
 - Where an emergency occurs, or is expected, during an examination, the following procedures – where possible – apply:
 - At the beginning of the examination, the student writes his name and student number on all the examination work.
 - **At the request of the responsible authority or invigilator those present should leave the examination room immediately.**

⁴ In most cases the **course** begins somewhat earlier (mostly in week 35 or 36)

⁵ College van Bestuur

- Students leave the work they have done behind in the examination room.

- 1.3.3 Where the opportunity has already occurred to begin the examination, and where it is reasonably possible, the teacher determines a final mark on the basis of the (partly) completed answers.
- 1.3.4 Where the teacher cannot determine a final mark on the basis of the statement in 1.3.3, a repeat examination is organised for the students involved within one month (excluding the vacation period) after the examination has been cut short by the emergency. Students are considered to be 'involved' if they had registered for the original examination.
- 1.3.5 Where emergencies occur, or threaten to occur, during or shortly before a lecture or practical, this is immediately postponed.

In consultation with the Director of Education and/or the Education Affairs Office (BOZ), the teacher responsible for the course determines a new time for the lecture or practical. This time is published using the usual media at the latest the day after the building has been re-opened.

1.4 Safety Regulation

- 1.4.1 For the complete Safety Regulation for Engineering Technology (ET) and a list of names of the Company Emergency Response Team⁶ (CERT), see:
https://www.utwente.nl/et/intranet/arbo_milieu_huisvesting/Veiligheid/veiligheidsreglement12/
For the regulations for working conditions (ARBO) and the environment, see:
http://www.utwente.nl/hr/vgm/organisatie_informatie/informatie/arbowedgeving/
- 1.4.2 Prevention of Repetitive Strain Injury (RSI) is an important point of consideration for the programme, although the final responsibility rests with the student himself. For further information about prevention of RSI, reference is made to the web-site:
<http://www.utwente.nl/hr/en/health-safety-environment/health-welfare/rsi/>
- 1.4.3 A student is only entitled to participate in the education when he has informed himself of and conducts himself in accordance with the safety and working conditions (ARBO) regulations as described in article 1.4.1.
- 1.4.4 Additional safety requirements can apply for graduation work in specialist laboratories. A student is only entitled to participate in this research when he has informed himself of and conducts himself in accordance with these additional safety requirements.

1.5 Insurance

For insurance during an internship⁷ (in-company and/or abroad) and/or a project, see
<https://www.utwente.nl/en/education/current-students/mobility-online/>.

1.6 Rights of ownership

The rights of ownership of the results of tasks, assignments and projects which are carried out in the framework of the programme rest with the Faculty of Engineering Technology.

No rights can be derived to the relevant student for (parts of) results of a project, research or assignment undertaken under the commission of the UT, unless this is agreed with the Faculty management before the start and is confirmed in writing. Agreements with the company concerning the public access to the results, the final report and the duration and extent of confidentiality should be confirmed beforehand by the board of the faculty Engineering Technology.

⁶ BedrijfsHulpVerlenings-team (BHV)

⁷ Dutch 'stage', sometimes called 'placement'

2. VISION OF THE PROGRAMME (Article 7.59 paragraph 4 subparagraph a, WHW)

2.1 Aims of the programme

The intention of the programme is to educate masters with an academic level of thinking and working. In particular:

- they are in a position to analyse complex mechanical engineering problems in the domain of both products and processes;
- they can propose suitable solutions for them, which satisfy the demands placed on the solutions of similar problems;
- they can convince others of the quality of their proposed solutions and can make explicit the methods used in order to reach a solution.

The development of skills in the area of communications and social behaviour, essential for an academic engineer to be able to operate satisfactorily in multidisciplinary and intercultural team work, is a part of the programme. Finally, the programme is a preparation for the skills needed for further independent development.

2.2 The purpose of the master's

The programme provides education up to the Master of Science in 'Mechanical Engineering'. Mechanical Engineers are busy with generating ideas, designing, analysing and producing products, processes and systems. This can involve new concepts or the improvement and adaptation of already existing concepts. In the bachelor's programme each student has become acquainted with the full breadth of the subject domain.

In the master's programme each student chooses a part-domain within Mechanical Engineering in order to deepen his competence. In this part, theoretical courses are followed and an internship (stage) is carried out. The internship is an acquaintance with a company or research institution and prepares the student for taking professional responsibility. The internship takes place preferably abroad.

In addition, the student chooses a competency profile in order to prepare himself for societal positions which are open for mechanical engineers.

The graduation project (master's thesis) is done under the responsibility of one of the research groups within the Faculty. In this project the student shows that he is qualified to make a contribution to knowledge in that part-domain of mechanical engineering.

The graduation specialisations which are provided by the various Departments of the Faculty are:

- Biomechanical Engineering & Biorobotics (BME)
- Design, Production and Management (DPM)
 - *Design Engineering (DE)*
 - *Production Management (PM)*
- Thermal & Fluid Engineering (TFE)
- Mechanics of Solids, Surfaces & Systems (MS³)
- Maintenance Engineering & Operations (MEO)

Mechanical Engineers are problem solvers. In this context this concerns complex technical problems. A multidisciplinary approach is almost always necessary in order to arrive at a solution.

Within the programme conceptualisation, modelling and designing are exercised across the boundaries of the sub-disciplines. This provides general knowledge about the applicability of concepts and models. Mechanical engineers have wide-ranging tasks within technical design teams. Those who have just graduated undertake functions which can be typified as 'research and development' and as 'design and construction'. Within a design team they are the subject specialist, the integrator and also often the leader of the team or project. The programme provides the possibility for a focussed preparation for one of these functional categories. For this purpose the master's student chooses a number of courses within one of the competency profiles 'Research & Development' (R&D), 'Design & Construction' (D&C) and 'Organisation & Management' (O&M). In short, the student selects a competency profile within a graduation specialisation.

The profile, core and elective courses are to be found on the web-site:

https://www.utwente.nl/en/me/master_programme/programme-information/#profiles

2.3 The organisation of the programme

Within the programme each student composes his own programme within which a competency profile and a specialist area are recognisable. He chooses 25 EC of profile courses, 20 EC optional courses in the profile, and one course from another profile. Only O&M students choose 2 courses from the other profiles. For the graduation specialisation he chooses core courses (15 – 20 EC) and in-depth courses (0 – 10 EC). The graduation project (40 EC) is in the area of the specialisation. The internship (15 – 20 EC) does not have to be in the specialisation area, but does require the approval of the graduation professor.

The indicated margins are determined beforehand and not afterwards. The final programme must be approved by the graduation professor (also chairman of the graduation committee) and the Director of Education.

Master's programme for an individual student	EC
a. Compulsory courses within the R&D or D&C competency profile (O&M)	20(15)
b. Selection from other competency profiles (N.B. O&M profile)	5 (10)
c. Core courses per specialisation	15 - 20
d. Specialist courses for each graduation theme	0 - 10
e. Free choice	10 - 15
f. Company or research internship	15 - 20
g. Graduation project	40 – 45
Total (minimum)	120

2.4 Implementation

The first year involves courses. The second year makes room for the internship and graduation project. Many of the courses are rounded off with a project or an oral examination. A part of the courses is not timetabled, because the teacher agrees with the interested students the most appropriate times.

2.4.1 **The extent of the programme** (Article 7.4 paragraphs 1 and 6a, WHW): The study effort of the programme involves 120 EC.

2.4.2 **Full-time/part-time** (Article 7.7, WHW): The programme is only provided full-time.

2.4.3 **The examinations of the programme** (Article 7.8 paragraph 2, WHW): The programme is rounded off with the Master's examination.

2.4.4 **The forms of education used:**

- **Lecture:** a plenary meeting for the students which is intended to convey information;
- **Literature study:** the undertaking of literature research into specified scientific phenomena;
- **Assignment:** carrying out a design or a research project;
- **Practical:** a practical exercise as intended in Article 7.13 paragraph 2 subparagraph d of the [Dutch] law. This is understood to mean participation in an education activity designed to master certain skills, such as completing written work or a prototype design, the carrying out of tests and experiments, and participating in field work or an excursion;
- **Project:** carrying out as a team a design or a research project;
- **Essay:** a written report about a theoretical or practical project/assignment ;
- **Internship:** assignment carried out in a company or scientific environment in order to (among others) become acquainted with the future field of the mechanical engineering student as well as with problem solving in a real company setting;
- **Seminar:** a meeting for a subgroup of the population to offer students the opportunity to work through the learning materials (also supervised self-study).
- **Tutorial:** a meeting for students who work on exercises guided by a teacher.

2.4.5 **Costs of education**

Students meet the costs of education materials required for own use, such as books, readers, copying, materials and essentials for practicals, notebook (*), network provisions supporting the participation in education, and in the examinations of the programme. Licences for specific software packages are not included in the provisions necessary for personal use. Because of the wide variety of courses, no estimate of study costs is made for the master's programme.

(*) *UT students can find more information on:* <http://www.utwente.nl/icts/en/>

3. ADMISSION POLICY

3.1 Requirements for previous education

3.1.1 Admission to a master's programme can be achieved in several ways:

- a. Bachelors of the three [Dutch] Technical Universities holding a university bachelor's degree in mechanical engineering are unconditionally admissible;
- b. University bachelor's degrees from adjoining subjects or programmes: bachelors of a number of adjoining subjects are admissible, in many cases under the condition that a certain supplementing of the bachelor's programme is undertaken (for example, a minor in mechanical engineering) and that a certain graduation specialisation is chosen. The admission from other Technical University programmes is determined in the admissions matrix: <http://www.utwente.nl/master/how-to-apply/> In all these cases there is individual adaptation;
- c. University bachelor of science degree from a university abroad: bachelors of mechanical engineering programmes (or adjacent programmes) which have a good reputation, and where the student belongs to the best 20% of the year cohort, can be admitted when the additional requirements (including the language requirements) are satisfied;
- d. With a successfully completed pre-master's programme (see 3.3).

3.1.2 Students who, after a further assessment of the pre-master's programme, have been admitted to the master's programme in mechanical engineering of one of the other [Dutch] Technical Universities

are admissible to the programme at the UT. Students who have been rejected from the other [Dutch] Technical Universities are not admitted to the programme at the UT.

3.2 Additional requirements for students coming from abroad.

Students from abroad must show they have sufficient command of the English language. If they do not come from a country where English is the native language, they must provide the result of a language test. An IELTS⁸ score of at least 6.5 is required.

3.3 Pre-master's programme

3.3.1 Bachelors from a university of professional education (HBO) in construction and engineering subjects are admitted to the pre-master's programme. Admission of others is at the discretion of the Examination Board.

3.3.2 The pre-master's programme consists of a selection of courses from the bachelor's programme with an emphasis on physical and mathematical courses.

3.3.3 The pre-master's programme consists of 30 EC. Those entering from a university of professional education who have considerable industrial experience are not allowed to do an internship (stage). Instead of an internship they must follow remaining pre-master courses.

3.3.4 A student who successfully passes all courses in the agreed programme within eight months after registration for the pre-master's programme is admitted to the master's programme.

3.3.5 A student who is rejected from a pre-master's programme at one of the three mechanical engineering programmes in the Netherlands is not re-admitted to a pre-master's programme in a following academic year.

3.3.6 A student who, after the pre-master's programme, is admitted to the master's programme, follows a programme which in certain parts will deviate from that of the regular master's programme, depending on the previous education and the subject of specialisation.

4. EDUCATION AND PROGRAMME

4.1 Implementation of the programme

4.1.1 Provision of information

- a. A course description, method of examination and the form of the education should be published before the start of the course. For this purpose reference is made to the 'OSIRIS course information' on the internet, with the reservation that education is susceptible to continuous change. The most up-to-date course information, as it is applicable, is found on Blackboard.
- b. The programme ensures the registration of study results.

4.1.2 Composition of the personal study programme

- a. The student composes a programme together with a professor in the Department to which he is assigned. This programme requires the approval of the graduation professor (chairman of the graduation committee) and the Director of Education.

⁸ International English Language Testing System

- b. The student hands in the approved study programme to the Education Affairs Office (BOZ) at the start of the master's programme, but at the latest on 1 October of that year. Even if this is in many cases a provisional programme, handing it in on time is crucial for the student (admission to courses, and being sure that the course may make part of the graduation programme).
- c. In order to be able to make a proposal for the study programme mentioned above, students can use the pre-laid-out form for the study programme on the web-site https://www.utwente.nl/en/me/master_programme/profiles/. This is then discussed with and should be approved by the graduation professor. Thereafter it is sent (with signature of the student and the graduate teacher) to the Education Affairs Office (BOZ) or sent together with an accompanying e-mail from the graduation professor to BOZ. BOZ presents the study programme to the Examination Board for approval.
- d. Changing the study programme. Where the examinee wishes to make changes to the choice of one or more courses of the programme which has already been approved, he can submit a request to that effect to the relevant graduation professor. What is stated in 4.1.2a applies for this request (for this purpose the form 'Changing master's courses' is available. See https://www.utwente.nl/en/me/graduate_procedure/#graduate-procedure
- e. A course may only be a part of one of the master's programmes.

4.1.3 Internship⁹

- a. The extent of the internship is 15 – 20 EC (10.5 – 14 nominal study weeks, including writing the report). The extent of the internship is determined beforehand, and depends on the nature, scope and extent of the project and the necessary residence period.
- b. The internship may be started after at least 40 EC of the master's programme has been rounded off.
- c. If, after the internship has begun, it is determined that it will not be possible to achieve the intended learning effect, the student will contact the programme to discuss the consequences. It is up to the student to give a timely signal. In all situations where the cause of a non-optimal internship does not rest with the student, an adequate making-good of the lapsed study time will be determined in a flexible manner. The graduation professor takes the initiative for this.
- d. The student takes the initiative for arranging an internship location and a suitable project. The programme supports this. For this purpose a mobility coordinator¹⁰ is appointed. The internship project requires the approval of the graduation professor and the mobility coordinator. The graduation professor is responsible for assessment of the content. The mobility coordinator determines whether the project conforms with the general UT and programme policies and provides adequate administrative support.
- e. During his internship the student receives supervision from a staff member of the programme (usually from the Department within which he will graduate).
- g. The programme will make no financial demands on the organisation which provides the internship.
- h. Further information about the practical carrying out of the internship and/or the subsidy regulation is available from the Mechanical Engineering mobility coordinator. There is also an 'Internship handbook', which is published annually. See also the handbook, subsidy regulations, insurances, etc on https://www.utwente.nl/en/me/master_programme/student_mobility/

⁹ Dutch 'stage', sometimes called 'placement' or 'traineeship'.

¹⁰ Dutch 'mobiliteitsmedewerker', sometimes called 'placement officer' or 'exchange coordinator'.

4.1.4 Internationalisation

The programme has the aim of allowing all students to have an international experience during the study. This can be a company internship, an internship in a university or scientific institution, a graduation project and/or the following of a number of regular courses at a foreign university (preferable not in the first semester). For the extra costs made for this purpose, there are subsidy regulations for which only once during the programme is it possible to claim. See the subsidy regulations: <http://intoffice.utwente.nl/en/financial/>

4.1.5 Regulation for including international courses in the master's study programme

- a. For this purpose and well before departure to the university abroad, the student makes an agreement with the graduation professor. The student explains the reasons for his request and provides the necessary (course) information.
- b. The graduation professor is responsible for determining the level of the course(s) to be taken abroad. He can delegate this to a UT teacher who provides a comparable course. In principle the international course must have a level equivalent to that of UT courses.
- c. Where the content of an international course does not match a master's course in UT, the graduation professor can consider making the course a 'special subject' ('capita selecta') course.
- d. No international courses may be included which substantially overlap with regular UT courses which have already been completed or which still have to be rounded off.
- e. There is no automatic translation of international study points into UT study points (EC). BOZ determines the number of ECs. The starting point for this is the agreements in the framework of the ECTS (European Credit Transfer System).
- f. The maximum number of study points for international courses which can be taken up in the core and elective programme is 30 EC. The surplus of courses can be added to the marks list of the degree certificate as 'extra courses'.
- g. One exception can be made relating to 'the maximum number of international courses' in point f: where the student participates in a master's programme that is set up together with a partner university, and the education and assessment of it takes place at the partner university. The [relevant] programme should be approved and countersigned beforehand as-a-whole by one of the professors of Engineering Technology and by the Director of Education.
- h. The agreement as mentioned in a. needs to be confirmed by using the form 'Inclusion of international courses'; this form has to be signed and handed over to BOZ. The Director of Education agrees the request.
- i. Where possible, the Education Affairs Office takes the international names of the courses over to the Diploma Supplement.

4.1.6 Master's project

4.1.6.1 Registration of the start of the Master's project.

Within two weeks after he has agreed with the graduation professor on the start date, duration and extent of the graduation project, the student hands in the form 'Statement of Master's Project' to the Education Affairs Office (BOZ). Using this, the progress during the Master's project is calculated in study points and registered.

4.1.6.2 Graduation Committee

- a. At a time agreed with the graduation professor, the student should submit to him a request to constitute a graduation committee.

- b. The graduation professor ensures the constitution of this committee within four weeks of the student's request. The composition of this graduation committee is sent via the Education Affairs Office to the Examination Board for approval.

4.1.6.3 Rounding off the master's project

The master's project is rounded off with:

- a. A report or an article plus appendices in which the results of the project are documented in a report which must be ready at least two weeks before the date of the presentation.
- b. A public presentation (colloquium) in English of not more than one hour (including answering questions), announced beforehand in good time;
- c. This must take place within the University of Twente, preferably in the building of the Faculty of Engineering Technology;
- d. A closed session of the graduation committee with the student. This session generally occurs immediately after the presentation, and lasts not more than 1.5 hours. By mutual consultation it can be decided to conduct the cross-questioning before the colloquium.
- e. At the end of this session the final mark for the Master's examination is determined. The graduation committee determines whether all the demands for the Master's examination have been satisfied in accordance with Appendix 2.

4.1.6.4 Completion of the Master's project at another university

In deviation from what is stated in article 4.1.6.3, a student may hold his colloquium at another university (for example, because the day-to-day supervision took place there), provided that:

- The responsible graduation professor gives permission for this;
- The relevant university has a structural collaboration agreement with the University of Twente, Faculty of Engineering Technology;
- At least one authorised examiner of the mechanical engineering programme of the University of Twente is present at the colloquium.

Concerning the protocol, it is possible to choose to follow the protocol in force at that university or to follow the UT protocol. The mark determined for the master's graduation is compulsorily taken over. The graduation committee of the UT determines whether all the requirements for the master's graduation have been satisfied in accordance with Appendix 2.

4.2 The free education programme (Article 7.3 paragraphs 4 and 5, WHW)

- 4.2.1 As an exception, approval can be given to the taking of a master's examination on the basis of a programme of courses composed by the student.
- 4.2.2 The Examination Board determines whether the free programme is actually built upon education units which are provided by an institution of higher education, whether the study effort is sufficient, and whether that programme has the required level.
- 4.2.3 The 'required level' mentioned in 4.2.2 relates to both the programme of courses and to the master's project.
- 4.2.4 Where the Examination Board does not approve the proposal which has been submitted, it must give clear reasons for its decision.

4.3 Requirements for attendance and participation in education

There are no requirements for attendance or participation in order to follow education units which are offered in the form of lectures or plenary meetings, unless this is determined otherwise beforehand.

- Enrolment may be required for participation in tutorials or seminars. Moreover preparation and regular participation is assumed. Where it seems that this requirement is not met, or not sufficiently met, participation can be excluded.
- For admission to participation in a practical and projects, in general the requirement is that previous courses or study phase(s) have been successfully completed. Above all, there is a requirement to be present and to participate actively. A practical and projects can only be rounded off with a satisfactory result if all prescribed courses have actually been carried out within the prescribed period.
- For admission to participation in theory courses, the general requirement is that previous courses which prepare for the relevant course have been satisfactorily completed ('OSIRIS course information').

Not participating in education in an education period can result in not passing the examinations, projects or a practical. The programme takes no responsibility for this at all.

In cases beyond one's control (*force majeure*) (for example, ill health) the student should immediately contact the teacher who is responsible for the missed course of education.

4.4 Language (Article 7.2, WHW, see also central part of the Student Charter of the UT, Article 3.1.3)

4.4.1 The education is given, and the examinations are taken, in English or in Dutch. English is used when one of the students or the teacher does not have sufficient command of the Dutch language.

When neither the examiner nor the examinee objects to it, the examinations can be taken in another language.

4.4.2 The graduation report is written in the English language including a Dutch summary (see also 4.1.6).

5. TAKING EXAMINATIONS AND GRADUATION PROCEDURE

5.1 Definition of terms

5.1.1 The programme recognises no examination session for the programme as a whole; all courses are examined separately. A course examination is called an examination (tentamen). The total of the results of the examinations taken is registered in OSIRIS for assessment within the graduation procedure.

5.1.2 Meaning of terms in 'manner of assessment':

- written examination: Written test.
- oral examination: Oral test (see also article 5.8, oral examinations).
- project examination: (In principle oral) test on the basis of written reporting, which is the result of an assignment, carried out in the appropriate period by a group of students. A presentation, defence and cross-questioning often make up a part of the project examination. The testing can be organised on either an individual or group basis.
- practical: (practical) exercise; (see also article 4.3, requirement for participation in (practical) exercises).
- part-test: a part of an examination: the part-tests together (combined where applicable with another method of assessment) form the basis for a final mark.
- project (assignment): Homework answers, essay, problem, practical, product, presentation, colloquium, and so on. The determining factor is that the student delivers an achievement which is to be assessed. The examiner publishes further details.
- portfolio / file of documents : A reproduction of the competencies achieved and the activities undertaken in the framework of development of competencies and the results thereof (products and/or assessments). The whole gives an impression of how the student is developing himself as a 'prospective master'.

5.2 The Examination Board

5.2.1 The composition of the Examination Board is stated in Appendix 5.

5.2.2 Composition of the graduation committee

5.2.2.1 The graduation committee consists of at least three members authorised to conduct examinations:

- a. One of the full professors from the relevant Department is chairman of the graduation committee.
- b. Where it seems that no professor is available, the Department chairman can propose to the Examination Board another member of the academic staff of the Department;
- c. At least one member comes from the permanent academic staff of the UT outside the Department, chair or section where the student does his graduation work;
- d. The Examination Board can invite a professor from outside the Faculty to function as chairman of the graduation committee.

5.2.2.2 The following are authorised to conduct examinations:

- a. members of the permanent academic staff of the UT;
- b. members of the permanent academic staff of partner universities of the Faculty of Engineering Technology (ET);
- c. members of the temporary academic staff and general personnel of the UT who have been given the appropriate authority.

Having discussed with the HRM service, and after discussion with the Examination Board, the Director of Education will annually approve the list of those in Engineering Technology who are empowered to conduct examinations. The list contains the names of all members of personnel who have been given authority to conduct examinations for the coming calendar year. New academic staff should have taken part as observer in two assessment sessions, in order to be eligible for obtaining authority to conduct examinations.

The chairman of the graduation committee can invite others as experts to attend the examination session as guest. Guests have no voting rights. Members of the Examination Board and the Director of Education are always empowered to attend examination sessions.

- 5.2.3 The meetings of the graduation committees and of the Examination Board take place in closed session.
- 5.2.4 Where a member of the graduation committee is prevented from attending an examination session, he can be replaced by a member who has authority to conduct examinations (see 5.2.2.2). The substitute should identify himself as such to the chairman before or at the start of the meeting. The substitute has the voting rights of the member he replaces.

5.3 The sequence of examinations

- 5.3.1 Disqualification from participation in projects or (practical) exercises.

Before the start of an education period, the Examination Board can limit the participation of students in projects or (practical) exercises to those students who have made sufficient progress in the courses preceding the project or practical.

- 5.3.2 Regulation for administrative secondary activities and/or top sport

- a. The student who satisfies what is stated in c. and d. below, and who considers taking part in recognised administrative secondary activity or activities or has the status of top sportsperson, may count on the support of the programme.
- b. In the opinion of the programme at the moment the request is made, the study progress of the student must be reasonable to good.
- c. The secondary activities must be of a limited extent and duration.
- d. The student should consult in good time the relevant education coordinator or graduation professor, during which among other matters the study planning and the planning of the secondary activities are discussed.
- e. The agreements made about them are confirmed in writing and after they have been countersigned by the coordinator and the student, they are handed in to the Education Affairs Office (BOZ).

5.4 Time periods, times and frequencies of examinations

(Article 7.13 paragraphe 2 sub-paragraphe f, WHW)

- 5.4.1 At the beginning of a quarter a timetable is published in which the dates of written examinations are stated.
- 5.4.2 In the case where an examination can be taken orally, this can be taken at a time determined by the examiner(s) in consultation with the student and, if the student so wishes, at the latest within a month after the request (the vacation period not being counted).
- 5.4.3 For each of the courses of the master's programme which are not published in an education timetable, the examiner who is charged by the Examination Board with conducting the examination in such a course, determines, as far as possible in consultation with the student(s), a time when the examination can take place.

- 5.4.4 The examination for the courses which are taken as written examinations, can be taken at least twice per course year, once immediately after the period in which the teaching in that course is given, and once at such a time that there is a reasonable gap between two successive examination opportunities. Examinations (oral and written) in courses for which the teaching is not offered every year can, at the request of a student, be taken at least once every academic year.
- 5.4.5 Every student has the right to complete every course of the relevant academic year, unless the student has been excluded from participation in the relevant education or examination. The student progress, the results of conditional tests, the score in one of the contributing courses or the absence from education activities or examinations for which one has registered, can in the extreme case be reasons for excluding a student from (further) participation.
- 5.4.6 The number of times that it is allowed to take part in a regular completion of a course is limited to two, unless otherwise indicated. Where the student wishes to participate in more than two attempts, permission from the Examination Board is necessary. In this case the Examination Board can also prescribe a different form of examination (oral, project).
Where a change of existing courses, or a substantial change of the material in a course, has been made which has been approved by the Director of Education, the student who has participated at least once in the examination of the relevant course before the changes were made has the right to be re-examined in the course in its old form at the first timetabled opportunity in the adjoining academic year.
- 5.4.7 Registering for but not taking an examination is regarded as an attempt at the examination for which a mark of 1 is awarded.
- 5.4.8 For each of the examinations the examiner charged by the Examination Board with conducting this examination determines, after consultation with the student, a time when the examination can be taken. This can mean that examination can only be taken once per academic year.
- 5.4.9 In special cases and by student request, the Examination Board or the relevant examiner can allow a deviation from the times fixed in article 5.4.3.
- 5.4.10 Concerning an examination that relates to a course which is not taught within the programme, the sequence and time periods in the education and examination regulations valid for that course are applicable, except for a deviating decision made by the Examination Board.

5.5 Special provisions (Article 7.13 paragraph 2 subparagraph i, WHW)

Students with a physical or sensory limitation are given the opportunity to take examinations in a manner that is as far as possible adapted to their individual limitation. The facilities which are to be offered as far as possible consist of a form or duration of the examinations which matches the individual situation, or making practical aids available. For this purpose the student should hand in to the Education Affairs Office a written (e-mail) request at the start of the study or the start of the limitation. The Director of Education seeks, whenever necessary, expert advice before making a decision. The student is informed of the decision in writing.

5.6 Taking examinations

(Articles 7.10 and 7.12 paragraph 3, WHW)

- 5.6.1 Every examination consists of an inquiry into the knowledge, the insight and the skills of the student as well as the assessment of the results of that inquiry.
- 5.6.2 The assessment is made by one or more examiners.
- 5.6.3 In the case where the inquiry of the same examination is undertaken at the same time or not by more than one examiner and the result thereof is assessed, the relevant Examination Board ensures that the

examiners assess on the basis of the same standards. Where necessary it appoints an examiner who has the prime responsibility for the examining.

- 5.6.4 The determination whether the conditions for taking of the examination, or one or more components of it, are satisfied is taken by the relevant Examination Board or examiner, who can delegate the implementation to the Education Affairs Office.

5.7 Exemption from examinations

(Article 7.13 paragraph 2 subparagraph n, WHW)

- 5.7.1 On the basis of examinations taken elsewhere with satisfactory results, exemption from an examination can be given. The Examination Board decides about the granting of exemptions after it has received advice from the relevant teachers.

The exemptions from examinations stated in the previous paragraph are determined in a written decision.

- 5.7.2 A request for exemption from the requirements to take examinations or to participate in (practical) exercises (see 4.3) on the basis of what is determined by or in accordance with the [Dutch] law should be made to the Director of Education.
- 5.7.3 Having heard the relevant examiner(s), the Examination Board decides within one month of having received the request.
- 5.7.4 The student has the opportunity to be heard before the Examination Board decides to grant the exemption totally or in part.
- 5.7.5 Where, by or according to the [Dutch] law, the examinee has the right to exemption for one or more examinations, he informs the Education Affairs Office (BOZ), and provides the relevant pieces of evidence.

5.8 Oral examinations (Article 7.13 paragraphe 2 sub-paragraph h, WHW)

- 5.8.1 The examiner can himself determine the form of examination within the frameworks which have been set.
- 5.8.2 The oral taking of an examination is not in public, unless the relevant Examination Board or examiner has in special circumstances determined otherwise.
- 5.8.3 Members of the Examination Board and the Director of Education are entitled to attend an oral examination session.

5.9 Written examinations

- 5.9.1 The questions and answers (examination scripts) of an examination do not go beyond the sources from which the material has been taken and what has been handled in lectures. These sources are published in outline before the start of the education that is given in preparation for the relevant examination. At the latest one month before taking the examination, the definite extent of the material is made known in writing (e-mail/Blackboard). The manner in which the examination is to be taken must be published at the moment that the registration period in '*OSIRIS Self Service*' is opened.
- 5.9.2 The times when the written examinations can be taken are published in the annual timetable (see 5.10.1).
- 5.9.3 The Examination Board ensures that in good time the students can gain insight into the extent and complexities of the demands placed on the examinations. For a written examination, the students have well before the examination a concrete insight into the degree of difficulty and accents to be expected of the examination.

5.10 Registration for examinations / Conduct during examinations (Article 7.12, WHW)

5.10.1 The registration for examinations

- a. Registration is required for written examinations.

The timetable states up to which day it is still possible to inscribe for the examinations of each separate semester. Bearing in mind the dates indicated in the previous sentence, inscribing for examinations should take place using the 'OSIRIS Self Service', unless otherwise informed.

Not registering in the stated manner before the closing date for inscription, cancels the right to participate in the relevant session. Even if participation is allowed by the relevant invigilator, this does not automatically confer the right of assessment of the work handed in.

- b. A student who has registered for the examination and without valid reason does not appear can be excluded from participation in the next examination session of the relevant course.
- c. Registration is required for the master's examination. The registration takes place at the Education Affairs Office (BOZ) (see Appendix 1).

5.10.2 Conduct during an examination

- a. One or more invigilators are appointed to a written examination, who ensure that the taking of the examination runs smoothly. The student should take the examination at the designated place.
- b. The student can only take part in an examination if, when asked, he can establish his identity with a document of registration as student or otherwise.
- c. The student is considered to take part in a written examination, when he has taken receipt of the examination paper.
- d. In connection with quietness during the session, the student is required to be present before the start of the session and on entry where applicable to switch off and put away communications apparatus. On late arrival (more than 15 minutes), the invigilator can refuse him participation in the written examination. The invigilator makes out a formal report about this.
- e. Over-garments and bags remain as far as possible outside the room or at the front of the room at a place so designated by the invigilator.
- f. Having communications apparatus within reach is not allowed, unless otherwise indicated.
- g. Writing materials are allowed; the teacher can indicate which other aids are allowed, for example, a reader, book, pocket calculator, etc.
- h. The permission of the invigilator is required for a visit to the toilet; study materials, communications apparatus, and other (portable) study aids should be left behind in the examination room.
- i. The student who has satisfied point c. should at the end hand in to the invigilator the examination work he has done.
- j. A student who wishes to leave the examination session early (after 30 minutes after the start), should tell the invigilator. He should then hand in the examination work, even if he has not made a start with answering the questions.
- k. Instructions by the invigilator should be followed precisely.

5.11 Fraud (Article 7.12 paragraph 4, WHW)

5.11.1 Fraud is understood to mean:

1. The use in examinations of more or different aids than those which the examiner, before the examination, has stated in writing that they are allowed.

2. The use in examinations of aids or help which the student knew or should have known that they were not allowed. In any case the following are included among the intended help or aids mentioned in the previous sentence:
 - a. Cheating, whether or not:
 - With the aid of cheating notes, other means of help, previously prepared workings out, and/or communications apparatus;
 - Through copying or allowing copying, in examinations;
 - Making contact with others (other than the invigilator or teacher) about the material of the examination during the time for sitting the examination and when the work has not yet been handed in.
 - Through making use of parts of written work or worked out answers of others.
 - b. Forgery of documents, including doing or allowing the doing of an examination under a false name.
 3. Behaviour of students which, before the taking of the examination, the teacher has made it known in writing that he regards it as fraudulent.
 4. Plagiarism: copying without proper reference to sources and allowing copying.
- Appendix 6 provides further details of which procedures are to be applied for handling written work which is considered fraudulent.

5.11.2 Where (suspected) fraud is perceived, the responsible teacher informs the student involved and the Examination Board in writing (e-mail).

5.11.3 After determining fraud, the teacher takes the following action(s) concerning the student:

- a. The assessment of the complete examination is a mark 1 (one).

This also holds for fraud in a part of an examination.

- b. Exclusion from participation in the relevant examination for a period of at most one year.

- c. The examiner can determine for the student involved a deviating form of assessment of the relevant examination.

5.11.4 The Examination Board is entitled to impose additional actions on the student.

- a. When the Examination Board determines that there was fraud, it can exclude the student(s) involved for a period of at most one year from participation in, in the extreme case all examinations.

- b. An examination for which in whatever way fraud has been confirmed may not, during the period of exclusion, be replaced by another examination.

5.11.5 Article 6.7 is applicable for what concerns objection and appeal against a decision which is taken in the framework of articles 5.11.3 and 5.11.4.

6. RESULTS

6.1 Transcript of examination result (Article 7.11 paragraph 1, WHW)

6.1.1 After an examination has been taken, the examiner draws up a declaration from which the result or results are apparent. The declaration is signed by the examiner.

6.2 Assessment (Article 7.12 paragraph 4, WHW)

6.2.1 The assessments are usually expressed in the form of one of the following **integer** marks 1 to 10 inclusive. The marks have the following meanings:

1: very poor	2: poor	3: very unsatisfactory
4: unsatisfactory	5: almost satisfactory	6: satisfactory (pass)
7: very satisfactory	8: good	9: very good
		10:excellent

Examinations can be assessed with a 'V' (voldoende = sufficient) where in the judgement of the examiner(s) at least a reasonable achievement is handed in. On the marks list an exemption is indicated by 'Vr' (vrijstelling).

6.2.2 Where the student has been assessed more than once for the same examination, the highest mark is the valid one.

6.3 Approval, publication and registration of results of an examination

(Article 7.13 paragraphe 2 sub-paragraphe k, WHW)

6.3.1 After the end of an oral examination, the assessment is confirmed within one week and published to the student.

6.3.2 Within 20 working days (not counting the academic vacations) after the end of a written examination, after the handing in of a project or after the finishing of a practical, the result of it is published. Where there is the opportunity of a quick re-examination for the relevant course, the checking time is shortened to such an extent that the student can reasonably prepare for the re-examination.

6.3.3 If the period stated in 6.3.2 is exceeded, the Examination Board can in the most extreme case determine or allow the determination of the result of an examination.

6.3.4 The results of written examinations, projects and practicals are published in 'OSIRIS'. Where there is lack of clarity about the result, the declaration countersigned by the examiner is the valid result.

6.3.5 Errors in overviews

Where a mistake has been made in a marks list or an overview which relates to the study progress of a student, both the programme and the student are required to make it known to the other party as soon as it is discovered, and to work together to annul the mistake that has been made. The administration of the programme discloses complete information unless indicated to the contrary. When there is evidence to the contrary, in every case the examination work assessed by the teacher is valid.

6.3.6 The Education Affairs Office (BOZ) ensures the registration of the assessments and the results of the examinations.

6.3.7 The Examination Board can give information about registered data to authorised persons, such as:

- Members of the programme management;
- Members of the assessment committee;
- Those persons who are charged with activities such as making requests for financial support, dealing with the study grant (DUO = Dienst Uitvoering Onderwijs ("IB-Groep = Information Management Group, Informatie Beheer Groep " previously)), and the central administration for students and alumni.

The information disclosed is limited to what is essential for the purpose.

6.4 Duration of validity of assessments (Article 7.13 paragraph 2 subparagraph g, WHW)

6.4.1 The results of examinations which have been taken are valid without time restriction. In deviation from this, for a course for which the examination was passed more than six years beforehand, the Examination Board can impose an additional or resit of the examination.

6.4.2 In special circumstances the Examination Board can extend the duration of validity of assessments stated in the previous paragraph by a period the length of which it determines.

6.5 Right of inspection (Article 7.13 paragraph 2 subparagraph 1, WHW)

6.5.1 During a period of four months which begins on the day after the result of a written examination is made known to the participant, the student can at his request inspect his own assessed examination work and scripts.

Concerning reports of a practical, the same agreement is applicable for the inspection of own work. The leader of the practical determines:

- a. whether, after the stated period of four months, the reports can be given back to the students involved and
- b. whether copies may be made of the assessed reports.

The intended inspection occurs at a time and place determined by the examiner in consultation with the interested party.

6.5.2 Storage time for examinations

The assessed examination work produced by the students on paper should be stored for at least one year under the responsibility of the Examination Board. Where an examiner is appointed for the course involved, he is responsible for this.

6.6 Subsequent discussion (Article 7.13 paragraph 2 sub-paragraph m, WHW)

6.6.1 Without prejudice to what is determined in article 6.5, an individual subsequent discussion of the work takes place with the examiner if the student requests it. This request must be made within a period of two months after the result of the examination has been published.

6.6.2 Where a joint subsequent discussion is organised, a student can submit a request as intended in the previous paragraph, when he has been present at the joint discussion and gives his reasons for his request.

6.7 Difference of meaning / Right of Appeal

6.7.1 Where there is a difference of meaning about a decision which has been taken, the relevant examiner and the student try to reach an agreement during the subsequent discussion. See also article 10.2.3.

6.7.2 Where the student is not provided with this opportunity, or the discussion does not lead to a result which satisfies both parties, a written (e-mail) appeal can be made to the Examination Board within two weeks against the treatment. The Examination Board will take a decision about it within three weeks and will inform those involved about it.

6.7.3 The joint right of complaint of students (Article 9.28, WHW)

Method of implementation

- a. The joint right of complaint can be used where the obligations of the university (in this case the programme) towards students are not met, or not completely met, or not met to a sufficient extent.
- b. The right intended in the first paragraph can be used by a group of students who are registered for the same programme at the University of Twente.
- c. The named group of students appoints from among them one or more spokesperson(s).
- d. The complaint is submitted in writing (e-mail) to the Director of Education by or on behalf of the spokesperson(s) stated in c. This consists of a clear description of the objections and what, according to the applicants, must be done to overcome the objections.

- e. The Director of Education confirms receipt to the spokesperson(s) within seven days of having received the complaint, and provides the applicants with the opportunity to give clarification of it within a reasonable period of time.
 - f. Within six weeks of having received the complaint, the Director of Education informs the spokesperson(s) of the applicants in writing and with reasons, whether the complaint is a reason for him to take actions and, if this is the case, what actions they are.
 - g. Where the complaint relates to an issue which does not fall under the authority of the Director of Education, the Director of Education forwards the complaint to the authorised body or the authorised official. The Director of Education informs the spokesperson(s) of the applicants of the complaint about this. What is stated in e. and f. is applicable in this case.
- 6.7.4 Appeal to the Appeals Tribunal for Examinations is possible against the decision of the Examination Board or examiners as intended in Article 7.61, WHW. The period for submission of the (written) appeal is four weeks (Article 7.61, paragraph 3, WHW).

7. GRADUATION EXAMINATION

7.1 Approval of the results of the examinations (Article 7.10 paragraph 2, WHW)

- 7.1.1 After all components of a graduation examination have been taken, the Examination Board involved can determine whether the student has satisfied the conditions stated in Appendix 2 for passing, or not.

Where this is indeed the case, the Examination Board can declare the student to have passed, and can carry out (or have carried out) all the relevant procedures which follow.

- 7.1.2 Moreover, where the guidelines stated in Appendix 3 for the award of the designation 'with distinction' ('met lof') have been satisfied, the Examination Board is empowered to allow this designation to be used on the master's degree certificate.

7.2 Degree certificates and registration (Article 7.11, WHW)

- 7.2.1 To show that the Master's examination has been successfully completed, a degree certificate is awarded by the Examination Board. The degree certificate is countersigned by the persons stated in Appendix 4. The award takes place in public; in special circumstances the Examination Board can deviate from this.
- 7.2.2 An English language diploma/degree supplement and/or marks list, on which the results of the examinations are stated, is provided to all those examined.
- 7.2.3 'Extra courses' are stated where applicable, provided these were added to the study programme with the approval of the Director of Education. The stated 'extra courses' make no part of the total programme. These courses should have been satisfactorily completed.

8. QUALITY ASSURANCE

The Director of Education is responsible for the design and implementation of a systematic procedure for evaluating (the parts of) the programme, in particular for the elements 'quality' and 'feasibility' ('studeerbaarheid'¹¹).

9. FACILITIES (Article 7.59 paragraphe 4 sub-paragraphe a2, WHW)

9.1 Computer provisions / Computer rooms

- 9.1.1 It is a requirement for following education that mechanical engineering students have a notebook available which supports the hardware and software. Students with questions about software can make use of the 'Helpdesk/Notebook Service Centre'. Students can also go there for breakdowns of notebooks which were selected by the NSC.
- 9.1.2 Every student has his own e-mail address which is assigned to him at the beginning of the UT study. Electronic communication between the UT and students occurs exclusively via this e-mail address.
- 9.1.3 Within the programme, copying and printing facilities are available for students (at their cost).
- 9.1.4 Misuse of or damage to UT facilities (use of computer provisions and network provisions for non-study purposes) or misconduct can, in addition to paying for the damage, be a reason for the management team temporarily to refuse the student participation in teaching and the examinations.
- 9.1.5 Use of the computer provisions and network provisions for non-study purposes can be regarded as misuse.

9.2 Library

The central UT library contains an abundance of books and periodicals relevant to the mechanical engineering programme. In addition some study materials are available in the room of the Isaac Newton Student Association .

9.3 Study Space

The spaces in the centre of the Horst building in front of the lecture room C.101, the canteen and the student area in the basement are designated as study space. Outside the lunch time, the canteen is intended for study and consultation, wherein persons should follow the local/domestic rules, including the return on time of canteen-ware. Study material can be loaned via the Isaac Newton Student Association.

- 9.3.1 A room can be booked via http://www.utwente.nl/onderwijssystemen/en/about_the_applications/timetabling_systems/WRB/

10. CONDITIONS FOR IMPLEMENTATION AND FINAL CONDITION

10.1 Assessment and approval of this regulation

- 10.1.1 Having heard the Faculty Council (FR-ET) and the Education Committee (OLC-WB), the Dean approves this regulation.

¹¹ Translator's note: a good English translation of the compact Dutch word 'studeerbaarheid' is notoriously difficult: 'feasibility', 'do-ability' and 'learn-ability' are all used. The essence is whether a suitably-qualified diligent student can successfully master the required academic material within a defined time. The criteria applied in the master ME are: the students in average should be able to pass the exam by spending the allotted time.

- 10.1.2 The Dean and the Education Committee assess this regulation regularly in the context of its implementation and its effectiveness.

10.2 Changes to this regulation

- 10.2.1 Changes to this regulation are approved by separate decision of the Dean.
- 10.2.2 Changes which are applicable to the current academic year can only be effected where the interests of the students are not thereby reasonably damaged.
- 10.2.3 In cases not covered by this regulation, the Examination Board decides. This is also the case for (apparent) lack of clarity, inconsistencies, differences of interpretation and/or (apparently) conflicting texts.

In cases which this regulation does cover, the Examination Board can in special circumstances also decide otherwise, provided this is not to the disadvantage of the student. It informs the involved teacher, Examination Board and/or student of the decision.

10.3 Appendices

The Appendices mentioned in the previous articles are an integral part of this regulation.

10.4 Publication

The Director of Education arranges for publication of this regulation and any changes to it which may be approved at a later time. In any case these are made available to the target group via Internet or at the Education Affairs Office.

10.5 Final Condition

- 10.5.1 This regulation comes into force on 1 September 2017.
- 10.5.2 This regulation can be quoted as 'Education and Examination Regulations for Mechanical Engineering'.

APPENDIX 1: PROCEDURE FOR MASTER'S EXAMINATION, COLLOQUIUM AND AWARD OF DEGREE

The programme can proceed to the award of the master's degree certificate when the student has satisfied the following requirements:

1. Well before graduation the student contacts the graduation professor in order to determine the graduation committee, graduation date and room (where customary via the Department secretary). See also the Graduation Handbook and/or the relevant graduation regulations within the Department;
2. The student ensures that the 'Registration for the Master's degree award' form and the colloquium form countersigned by the graduation professor are handed in to the Education Affairs Office (BOZ) four weeks (20 working days) before his examination;
3. The Education Affairs Office (BOZ) then sends to the student (with copy to the graduation teacher) an e-mail with the study data of not-yet-completed study phases(s), with the request to check these data within a week, and where necessary to tidy things up (change, delete and/or add courses). The student does this by handing in to the Education Affairs Office a copy of the 'Form for proposal for changes to Master's courses' countersigned by the graduation professor;
4. Immediately thereafter, the Education Affairs Office checks all study data and where applicable the proposals for change which have been handed in;
5. The marks of all courses, apart from the graduation project, must be handed in to the Education Affairs Office three weeks before the examination;
6. If, after that, all requirements for passing have been satisfied, the Education Affairs Office registers the student with the **Student Services** (this must be done in writing by the Education Affairs Office two weeks before the examination);
7. The student ensures that at the time of the graduation project examination he is registered for the programme of this university;
8. **Student Services** checks whether the student has satisfied all (registration) requirements;
9. Once each week on the Tuesday before the examination for the following week, the Education Affairs Office goes to **Student Services** to authenticate (with embossed stamp) and register at the same time all the relevant degree certificates;
10. About one week before the examination, the student hands in to the Education Affairs Office (BOZ) the report of the graduation project in digital form, preferably by e-mail (and in Word or PDF format).
11. When the above rules have been satisfied, the examination is taken, and where successful the student can in principle thereafter sign and receive the degree certificate which has been signed by the chairman of the Examination Board of Engineering Technology and the graduation professor. At this moment the English language diploma/degree supplement is also awarded. **Exceptionally, such as large numbers of graduating students or vacation in the months of July and August, the Education Affairs Office is not in some cases in a position to be able to hand over the degree certificate on time for the award immediately after the colloquium. The degree certificate can then be received at a later time arranged by the Education Affairs Office or the Department.**
12. After the final mark of the examination has been given to the Education Affairs Office and processed, the marks lists (in Dutch and in English) are sent by the Education Affairs Office as soon as possible.

All the forms mentioned above can be obtained from the Education Affairs Office or can be down-loaded from the Mechanical Engineering web-site (http://www.utwente.nl/me/master_programme/graduate_procedure/).

APPENDIX 2: ASSESSMENT OF THE MASTER'S GRADUATION PROJECT

- a. In the assessment of the master's project, it is determined whether the candidate satisfies the aims of the programme. The aspects of assessment are:
 - The level of the contents of the work undertaken in the light of the aims of the programme;
 - The demonstrated skills of the engineer (working in projects, independence, approach to design, scientific/academic attitude);
 - Communications skills (report, presentation, communication with colleagues in company and in the Department).
- b. These aspects are tested by reference to the report (thesis), the presentation, the oral cross-questioning and the approach to the problem (Master's problem). Marks for each component are used to substantiate decisions and for giving feedback. The final mark is not the average of the component marks.
- c. In the case of a complete and regular master's programme, the student passes when the following conditions have been satisfied:
 - the assessment of the master's project is satisfactory;
 - every mark is at least a 6, 'exempt' (vrijstelling, Vr) or 'sufficient' (voldoende, V), with the exception of at most one 5 which may occur in the Master's courses provided it is not the mark for the master's project nor internship.
- d. If the student has passed, the Education Affairs Office will send the result with date of passing to the **Student Services**.

Assessment protocol Master thesis ME

This protocol was set up to support the assessment of master theses within the MSc-programme Mechanical Engineering (ME).

The assessment of the master thesis takes place after the public colloquium and the discussion/ questioning in a closed meeting of the student with the master graduation committee. The assessment is done in a short, closed meeting of the master graduation committee without the student. The assessment is performed by the university members of the master graduation committee. External members have an advisory-vote. At the assessment, several aspects are taken into account (as described below and in Appendix 1). Appendix 2 presents profiles for final grading that indicate how the quality of the master thesis as a whole can be translated into a final grade. The list of aspects for assessment and the profiles for final grading offer guidelines for a more equalized assessment of master theses and offer clarity to the student about the way he or she will be assessed. The aspects for assessment and the grading profiles were set up according to the learning goals of the master thesis and (partially) on the final qualifications of the MSc-programmes.

Regarding the assessment aspects, five main aspects are distinguished:

1. With respect to content: quality of research or design
2. Report
3. Working process during master thesis project
4. Oral presentation
5. Defence

Appendix 1 lists all aspects within these five main categories. When assessing a master thesis, the committee will address these five main aspects and determines the strong and weak points of the student's work and gives grades (not necessary integers) on each of these main aspects. This is registered by the chairman of the master graduation committee on the **Assessment Form MSc-thesis ME**. Subsequently the committee

determines the final grade (should be an integer) for the master thesis according to the final grading profiles (see Appendix 2).

After determination of the final grade, the master graduation committee invites the student for the closed meeting and announces the final grade and presents the feedback on the assessment form orally to the student.

Aspects for assessment

1) With respect to content; quality of research / design

- insight in subject matter
- depth (detailed elaborations, use of literature)
- insight in coherence between different parts of the research project
- reasoning / argumentation of conclusions (are research questions clearly stated and answered?)
- relevance (scientifically, but also applicability in practice) (being able to put research into its context)
- creativity / inventiveness: extent to which the student independently introduces new concepts
- extent to which the research contributes to new knowledge / contributes to a concrete product, design or model
- learning (quality and quantity)

2) Report

- composition, structure
- consistency
- clarity/sharpness of formulations
- readability
- editing, lay out
- images and tables (usefulness, added value)
- references to literature

3) Working process during master thesis project

- attitude
- independence
- commitment/enthusiasm
- cooperation
- communication skills
- incorporation of feedback
- functioning within the organisation where the project is carried out
- student's attitude during progress meetings (active / passive)
- the extent to which the original research proposal has been met and reasons for alterations (keeping up with a work planning, follow up on appointments made)
- time needed to finish master thesis

4) Oral Presentation and defence

- content (what is included / not included in the presentation; is the message coming across?)
- structure / outline presentation
- care of details / neatness
- captivating way of presenting (verbal capabilities, posture)

5) Defence

- insight in subject matter and its relation with adjacent subjects
- answering questions / discussion
- ability to interpret/understand/analyse questions

Profiles for final grading

5. insufficient

The research and / or report are insufficient and the student was strongly directed by his or her supervisors. Weak points can clearly be pointed out. The student did not show an academic attitude. On average, the student scores 'insufficient' on all aspects for assessment.

6: sufficient

With respect to content, the research was conducted sufficiently. The report is mediocre. Weak points can clearly be pointed out, but are compensated by aspects on which the student performs better. The student has shown little input of his own and was strongly directed by his or her supervisors. On average, the student scores 'sufficient' on all aspects for assessment.

7: amply sufficient

With respect to content, a solid piece of research was delivered. The report is carefully edited. Either the research process or the mastery of subject matter leaves room for improvement. The supervisors clearly had a steering influence on the final product. The student scores at least 'sufficient' on all aspects for assessment and 'good' on some aspects.

8: good

With respect to content, the research was set up in a solid way and was carried out accurately. The report is carefully edited regarding language, structure as well as lay out with minimal input of the supervisors. The student has worked independently and was able to put forward his or her own initiatives. Guidance given by the supervisors was minimal. On average, the student scores 'good' on all aspects for assessment.

9: very good

The research is innovative and can be converted to an article for a renowned (scientific) magazine or a conference proceedings without putting in too much effort. With respect to content, the research is very solid with some points that can clearly be pointed out as very good. The report is carefully edited and shows that the student disposes of very good writing skills. The student's own input and independence are large. The student clearly stands above subject matter and is able to defend his or her statements in discussions well. The student scores at least 'good' on all aspects for assessment and 'very good' on some aspects.

10: excellent

The student functions at the level of an expert in the field. With respect to content, the research is excellent. The student is very capable of conducting research independently. The report and the presentation show that the student disposes of excellent communication skills (written and oral). The student scores at least 'very good' on all aspects for assessment and 'excellent' on some aspects.

MASTER'S EXAM:

Name :
Student number :
Master's track :
Graduation professor :
Master's programme : attached
Date master's examination :

Oral presentation : _____

Report : _____

Defense : _____

M-assignment (content) : _____

M-assignment (process) : _____

FINAL GRADE : _____

The graduation committee hereby states that

The status of the final report will be*:

= "Confidential" (for a period of _ years)

= "Public"

*) tick the appropriate box

RESULT : _____

Graduation committee:

Signature:

Prof.dr.ir. XX

Dr.ir. YY

Prof.dr.ir. ZZ

Criterion	Motivation (What went well, What could have been improved)
Oral Presentation	
Report	
Defence	
Content (quality of research or design)	
Working process during project	

APPENDIX 3: GUIDELINES FOR PASSING AND FOR AWARDING THE DESIGNATION 'WITH DISTINCTION' ('MET LOF')

When, beforehand, there is in the judgement of the Graduation Committee an exceptional level of student achievement and the prove of the student's potential as an exemplary academic engineer, the Examination Board can submit a reasoned proposal to the Director of Education to affix to the master's degree the designation 'with distinction' ('met lof').

This must be requested two weeks beforehand, in order that the degree certificate 'with distinction' can be awarded immediately after the end of the examination. Where there is uncertainty about the award, a degree declaration can be handed over, and the degree certificate (with or without 'with distinction') can be received at the Education Affairs Office within two weeks after the examination.

Apart from the 'exceptional level and potential' the guidelines for passing 'with distinction' are:

- a. The final mark for the master's project is at least a 9;
- b. The unweighted averaged mark of all courses, exclusive of the Master's project, must be at least: 8.00;
- c. The assessments of all examinations of the master's courses, including extra courses, are satisfactory ('Vr', 'V' or a grade higher than 6);
- d. A mark of 6 is gained not more than once in the programme (extra courses are not counted);
- e. The master's examination should have been taken within the nominal study time, augmented where applicable with recognised awards for graduation support, with a maximum over-run of two years. The nominal time is two years for BSc's or two years plus the extent of the pre-master's courses less the exemptions within the master's programme for HBO-bachelors¹²).

Where these conditions are not completely satisfied, the chairman of the Graduation Committee of the student involved can still submit a proposal to the Examination Board for the award of the designation 'with distinction'. This Examination Board makes a decision.

APPENDIX 4: AUTHORITY FOR SIGNING DEGREE CERTIFICATES AND STATEMENTS

Master's degrees

These are signed beforehand by the chairman of the Examination Board and after the examination by the graduation professor and the successful candidate.

When no degree can be awarded after the assessment of the graduation project, the degree certificate is signed at the appropriate time by the graduation professor and the Director of Education. The successful candidate signs the degree certificate after he has received it from the Education Affairs Office.

In the absence of one of the members of UT mentioned above, the following regulation applies:

- The degree certificate should be signed by at least one member of the Examination Board.
- The Examination Board gives the Director of Education the authority to be the second signer.

¹² Bachelors from a university of professional education ('hogeschool')

APPENDIX 5: COMPOSITION OF THE EXAMINATION BOARD

The examination board consists of a chairman, registrar, secretary, 4 members and the director of education as advisor.

APPENDIX 6: ADDITIONAL DESCRIPTION OF THE CONCEPT OF 'FRAUD' IN WRITTEN WORK

The following rules apply in preparing written work, programming assignments and the like:

1. Individual written work

There is one author who obtains an individual assessment on the basis of the written work.

Where passages are included, or data are used, which are taken from the work of others, it must be clearly stated:

- which passages they are (for example, by putting them *in italics* or within 'quotation marks')
- where they come from (by giving a clear source reference: a formal reference to the literature or a phrase such as '... oral information from Mrs XX').

2. 'Individual' group written work

Different members of the group are responsible for different parts of the report.

- indicate clearly which member of the group is responsible for which part of the report;
- where passages are included, or data are used, which are taken from the work of other members of the group, it must be clearly stated
- which passages they are (for example, by putting them *in italics* or within 'quotation marks');
- where they come from (for example '... this, in addition to the fact that measurements have indicated that the effect is negligibly small (see chapter V of this report), brings us to the conclusion that...')

For matters taken over from persons outside the group, the same rules apply as for individual written work, of course.

3. 'Joint' group written work

The group as-a-whole is responsible for the complete contents of the report, even if each one has taken responsibility for the writing of a separate part.

In that case it is not necessary to indicate precisely which idea is whose. Nevertheless the rules for making use of external sources are still the same as those for individual written work.

When the student does not follow the rules stated above, and thus literally includes someone else's work or paraphrases it without a clear indication of the source, he commits plagiarism.

Not only copying without indicating the source, but also allowing the copying, is taken to be plagiarism/fraud.

In joint group written work it is possible, in principle, in this case to accuse the complete group of fraud.