EDUCATION AND EXAMINATION REGULATIONS (EER) MECHANICAL ENGINEERING

Preface

This document is the ME students' charter, henceforth referred to as SC-ME, and consists of:

- Guideline for Education and Examination Regulations for UT Bachelor's Programmes (EER: articles 1-8)
- Programme-specific appendix for the Mechanical Engineering bachelor's programme, consisting of:
    - Programme-specific appendix to the EER
    - Examination board regulations

Both the faculty and the students of the programme in which the student is enrolled may derive rights from the SC-ME[1]. This is not the case for all other written and electronic publications, such as:

- The information listed on the programme's website: **www.utwente.nl/bscme** (with the exception of the SC-ME)

- The UT's programme catalogue: **https://osiris.utwente.nl/student/SetTaal.do?taal=en&bronUrl=/OnderwijsCatalogusZoekCursus.do&event=setTaal**

- Brochures and manuals

The SC-ME is published via the programme's website.

In cases not covered by the SC-ME, the dean respectively the examination board will issue a ruling depending on the legally stipulated authorizations. This is also the case in the event of any (supposed) inaccuracies, inconsistencies, differences of interpretation and/or (seemingly) conflicting texts. The dean or the examination board will notify the examiner(s) and/or the student(s) of their decision.

In cases in which the strict application of the SC-ME leads to clearly unintended or unfair situations, the examination board, the dean or the programme director may deviate from its stipulations, provided that doing so does not negatively affect the student. This decision must be motivated and announced in writing to the student, the examination board, the dean, the programme director and the Bureau of Educational Affairs (BOZ).

References to articles in these regulations refer to this SC-ME. Legal references in an article refer to the Higher Education and Research Act (WHW), unless otherwise stated.

Reference: ----------
Enschede ----------

Prof. G.P.M.R. Dewulf, PhD
Dean Engineering Technology faculty

[1] This English version of the SC-ME is a translation of the original version in the Dutch language. Rights may only be derived from the original Dutch version. At any point where the English translated document can be interpreted differently from the original document, the Dutch version is leading.

Guideline for Education and Examination Regulations

(ex articles 7.13 and 7.59 of the Higher Education and Research Act)

UT bachelor's programmes

(see separate document)

The dean of the faculty,

in view of articles 9.5, 9.15, first paragraph (a), 7.13 first and second paragraphs, 9.38 (b), and 9.18, first paragraph (a), and 7.59 of the Higher Education and Research Act (WHW), and

in due consideration of the recommendations of the Programme Committee, as well as the consent by, or advice of, the Faculty Council regarding the programme-specific appendix of the programme in question [2]

hereby adopts the Education and Examination Regulations of the following degree programme:

Mechanical Engineering

[2] The right to issue advice relates to paragraphs a to g of article 7.13 WHW. The right of consent relates to all other components of article 7.13 WHW.

Definitions Mechanical Engineering

B programme:	the first (B1), the second (B2) and the third (B3) academic year of the programme that is concluded with a final examination, henceforth called “bachelor examination”
B committee:	Committee, mandated by the examination board, to evaluate whether a student has passed their bachelor phase in accordance with the regulations
Bachelor coordinator:	advises the programme director on bachelor activities and conducts executive and coordinating activities
BOZ:	the ET (ME) Bureau of Educational Affairs
Subtest:	component of a test
Examination unit:	each individually assessed component of an examination, being a test or an exam
Faculty:	the Engineering Technology (ET) faculty of the University of Twente
Mentor:	staff member appointed by the programme director to supervise a group of students, may advise on admission to certain study units upon or without request
Module component:	component of a module for which a test result is registered in OSIRIS
Module part:	coherent part of a module (consisting of one or several module components)
Programme director:	the programme director of the Mechanical Engineering (ME) programme
Pace of study:	the acquired number of credits divided by the number of credits that might nominally have been acquired

Programme-specific appendix of the Education and Examination Regulations for the Mechanical Engineering bachelor's programme

The regulations in this appendix are part of the programme-specific component of the students' charter, including the Education and Examination Regulations (EER), of the Mechanical Engineering bachelor's programme (CROHO number 56966) of the University of Twente's Engineering Technology faculty.

A. Programme objectives

This programme educates bachelors to a junior-academic level of working and thinking and instils an attitude and skills directed towards solving problems and designing new products, processes and systems.
The development of the communication and social skills that are necessary to perform satisfactorily as a bachelor in a multidisciplinary team is an integral part of the programme. The programme covers the foundations of the broad field of mechanical engineering, with an emphasis on practical applications of knowledge, the generalisation of specific knowledge into universal solutions or methods, and the development of the student's learning capacity.

B. Attainment targets and objectives of the bachelor's programme (3 years) article 7.13 paragraph 2 (b), WHW):

The programme's objective is to educate bachelors with a particular focus on attaining the following competences:

a) Comprehensive and thorough technical and scientific knowledge of the various fields of mechanical engineering (mechanics, fluid mechanics, heat transfer, energy, systems and control, dynamic systems, design and construction) and the skills to use this knowledge effectively.
b) Thorough knowledge of methods, paradigms and tools to analyse and interpret data.
c) The ability to contribute to the solution of technological problems using a systematic approach that includes analysis, the formulation of subproblems and the evaluation of the implementation.
d) The ability to integrate theory and practice from various subdisciplines.
e) The ability to apply techniques, skills and modern "engineering tools" when these are relevant to the engineer's practice.
f) The ability to design a system, component or process that meets the set requirements and prerequisites.
g) The ability to effectively communicate with professionals about one's own work and its relevance and impact in various contexts.
h) The ability to operate as part of a (multidisciplinary) team, to take initiative, and to recognise and fill gaps in one's knowledge.
i) The ability and attitude to evaluate the impact of one's own work from a technological, social and ethical perspective and take professional responsibility for one's decisions.

j) The ability to continue one's education in a subsequent master's programme.
k) The attitude and ability to maintain and continuously improve one's academic and professional skills (life-long learning).

C. Operationalisation of the attainment targets:

The programme uses the following methods to achieve its attainment targets:

a) Comprehensive and thorough technical and scientific knowledge of the various fields of mechanical engineering (mechanics, fluid mechanics, heat transfer, energy, systems and control, dynamic systems, design and construction) and the skills to use this knowledge effectively.
- In the theoretical components, students receive basic and more in-depth knowledge of mechanics, fluid mechanics, heat transfer, production technology and systems and control.
- Knowledge from these components is applied during projects in a direct and integrated manner.

b) Thorough knowledge of methods, paradigms and tools to analyse and interpret data.
- Particularly during projects and mathematical units (statistics), the acquisition and processing of data are covered in a variety of ways.

c) The ability to contribute to the solution of technological problems using a systematic approach that includes analysis, the formulation of subproblems and the evaluation of the implementation.
- As part of the first-year projects, systematic problem-solving skills are taught.
- During the projects, students go through every step of the project approach, with a particular focus on generating alternatives and making a substantiated choice for a given solution.

d) The ability to integrate theory and practice from various subdisciplines.
- For each project, the focus is on one particular aspect of the product or system cycle, without losing sight of the other aspects.
- During projects, knowledge and skills from various fields must be applied in an integrated manner in order to design a solution to a complex problem.

e) The ability to apply techniques, skills and modern "engineering tools" when these are relevant to the engineer's practice.
- The project assignments are designed to represent a realistic practical situation. Some of these assignments are taken directly out of professional practice.
- The techniques and skills acquired during theoretical components must be applied during these projects.

f) The ability to design a system, component or process that meets the set requirements and prerequisites.
- During projects, the problems at hand must be thoroughly analysed within the context of the project.
- The final result of the project is evaluated based on the project's prerequisites.

g) The ability to effectively communicate with professionals about one's own work and its relevance and impact in various contexts.
- During the first- and second-year projects, verbal and written professional communication is covered in a variety of ways.
- Particularly in relation to the final bachelor's assignment and Academic Research & Skills (AR&S) 1&2, the student must communicate about their work with colleagues and professionals in a clear and proper manner. AR&S combined with the final bachelor's assignment are concluded with a conference.

h) The ability to operate as part of a (multidisciplinary) team, to take initiative and to recognise and fill gaps in one's knowledge.
- During projects, the workload is divided and teams are formed. These teams are formed in advance during some projects. Filling gaps in one's knowledge is part of project-led education.
- During two projects, there is an explicit focus on the optimisation of the teamwork and reflection on the student's own role in the team.

i) The ability and attitude to evaluate the impact of one's own work from a technological, social and ethical perspective and take professional responsibility for one's decisions.
- Taking responsibility for the entire project result within which the partial solutions are integrated.
- A "Chain Management" unit is part of the project during module 3.
- The minor gives students the opportunity to delve deeper into the discipline's social context.

j) The ability to continue one's education in a subsequent master's programme.
- During the bachelor's third academic year, several meetings are scheduled to discuss the choice of a master's programme. During all three of the programme's academic years, various self-reflection assignments are completed.

k) The attitude and ability to maintain and continuously improve one's academic and professional skills (life-long learning).
- Starting with the second project, there will be a focus on feedback and self-reflection. The goal is to ensure that these aspects are automatically part of all subsequent projects.

D. Exemption policy regarding deficiencies

Deficiencies in a student's prior education regarding the subjects of Mathematics B and Physics are filled by passing tests on mathematics (at the Mathematics B level), English and physics, held by the Special Admissions Committee (art. 7.25 paragraph 1 WHW).

- Deficiencies in the prior education regarding the subjects of Mathematics B, English and Physics can also be filled by passing examinations on these subjects at a level at least equivalent to the Dutch pre-university education (VWO) level, held while enrolled in a different programme.

E. Teaching methods used:

lecture (HC): a plenary gathering for students, intended for the presentation of information.
tutorial (WC): a gathering for a (sub) group of the population in order to allow students to process the subject matter (also known as guided independent learning)
assignment: the execution of a design or research assignment.
practical: a practical assignment as referred to in Article 7.13, paragraph 2 (d) WHW. This refers to participation in an educational activity designed to acquire certain skills, such as the completion of an assignment or a technological design, the execution of tests and experiments and participation in field work or an excursion.
project: working as a team of circa eight students to carry out a design or research assignment.
integrated education (GO): a gathering that combines elements of lectures and tutorials, as well as other teaching methods.
literature research: conducting literature research into certain scientific phenomena.
thesis: written report on a theoretical or practical assignment.
internship: being in a professional or scientific environment and conducting activities in order to increase knowledge of and insight into business and research processes.

F. Academic skills

During the first and second year of the programme, academic competences are taught as part of the "Academic skills" study unit. During the third year, these competences are part of Academic Research & Skills (ARS) 1&2 and the final bachelor's assignment. Academic competences include e.g. teamwork, self-reflection/feedback, conducting scientific research and orientation and information regarding further education.

G. Bachelor's programme

The programme consists of the study units/modules listed in the table below. Upon their successful completion, these modules allow the student to take the bachelor's examination. Modules 1, 3-4, 6-8 and 12 each make up one module part (MO) consisting of multiple module components. Module 2 consists of two module parts that in turn consist of one and four module components, respectively. Module 5 consists of two module parts that in turn consist of one and three module components, respectively. Module 11 consists of four module parts that each consist of one module component, as seen in the table below. The module descriptions referenced in article 4.4 paragraph 1 of the general EER are available in OSIRIS. The table below lists the credits and the study workload, respectively, of the numbered module parts and the module components that each module consists of.

Module part (MOn.n)	Module component	% study workload
	B1 - Module 1: Design and Manufacturing (15 credits)	
MO1.1 (15 credits)	Mathematics A + B1	26.7
	Production Systems 1	16.6
	Project Design Machine & Academic Skills 1	26.7
	Statics & Modelling and Programming 1	20.0
	Technical Drawing	10.0
	B1 - Module 2: Energy and Materials (15 credits)	
MO2.1 (1 credit)	Project Design Machine & Academic Skills 1	6.6
MO2.2 (14 credits)	Materials Science 1	20.0
	Mathematics B2	20.0

	Project Energy Systems Analysis & Academic Skills 2	26.7
	Eng. Thermodynamics 1 & Modelling and Programming 2	26.7
	B1 - Module 3: Energy and Sustainability (15 credits)	
MO3.1 (15 credits)	Chain Management	23.3
	Materials Science 2	13.4
	Mathematics D1	20.0
	Project Energy Systems Design & Academic Skills 3	23.3
	Eng. Thermodynamics 2 & Modelling and Programming 3	20.0
	B1 - Module 4: Design and Mechanics (15 credits)	
MO4.1 (15 credits)	Mathematics C1	20.0
	Project Design Construction & Academic Skills 4	23.3
	Mechanics of Materials & Modelling and Programming 4	30.0
	Machine Elements	26.7
	B2 - Module 5: Dynamic Systems (15 credits)	
MO5.1 (2 credits)	Mathematics D2	13.3
MO5.2 (13 credits)	Dynamics 1	23.3
	Project Dynamic Systems & Academic Skills 5	36.7
	System Analysis	26.7
	B2 - Module 6: Product Design (15 credits)	
MO6.1 (15 credits)	Elasticity Theory	13.4
	Project Consumer Product & Academic Skills 6	50.0
	Processing & Properties of Polymers	20.0
	Tribology	16.6
	B2 - Module 7: Fluid Mechanics & Heat Transfer (15 credits)	
MO7.1 (15 credits)	Fluid Mechanics 1	23.3
	Heat Transfer	23.3
	Project Fluids Engineering & Academic Skills 7	53.4
	B2 - Module 8: Mechatronic Design (15 credits)	
MO8.1 (15 credits)	Dynamics 2	30.0
	Project Mechatronics & Academic Skills 8	43.3
	Systems and Control Engineering 1	26.7
	B3 - Module 9: Minor (15 credits)	
	Free choice	100.0
	B3 - Module 10: Minor (15 credits)	
	Free choice	100.0
	B3 - Module 11: Production Systems Engineering (15 credits)	
MO11.1 (3 credits)	Academic Research & Skills 1	20.0
MO11.2 (3.5 credits)	Introduction Finite Element Method	23.3
MO11.3 (6 credits)	Project Production Systems Engineering	40.0
MO11.4 (2.5 credits)	Statistics	16.7
B3	**B3 - Module 12: ME Bachelor's Assignment (15 credits)**	
MO12.1	Bachelor Assignment	80.0
	Academic Research & Skills 2	20.0

H. Further provisions pertaining to admission

Further provisions pertaining to admission as described in article 2.3 of the **general EER** are described in the Colloquium Doctum brochure.

Admission to the programme is only possible when the student has a demonstrably sufficient command (at a pre-university level) of the English language (see also article 2.2-b of the Guideline EER for Bachelor's Programmes).

Furthermore, admission to the programme is only possible if the student has not received a negative binding recommendation from related programmes.

I. Contents of the programme

There is only one version of the B-ME programme.

The differentiation programme of the B-ME programme makes up part of the third academic year and consists of a minor worth 30 ec's.

The minor consists of one or two completed subject combinations worth a total of 30 credits which contribute(s) to the student's general academic competences or to the enrichment of their knowledge and skills in a specialist field. Qualifying for a certain master's programme or specialisation can be taken into account.
The student can compose their own minor programme. The UT minors from which the student may choose are outlined in the minor admission matrix, which is available on the UT's minor website. Furthermore, students can compose their own minor for which they must acquire permission from the ME examination board before the start of the minor. For each minor, the programme in question may set substantive admission requirements. It is advisable to prioritise ME modules over the minor to avoid incurring any (additional) study delay.
For some combinations of the programme itself and the minor, scheduling conflicts (being unable to participate in all scheduled activities or an uneven division of the study workload) are unavoidable.
The student must submit their choice of minor in the semester prior to the start of the minor.
For the standard UT minors, students must apply for the minor via OSIRIS before the date set by the minor's organisation AND enrol in the minor in question via OSIRIS before the start of the minor.

If the student plans to take on a social position after earning their bachelor's degree or to move on to a different master's programme that does not include any practical exercise, they may choose to complete an internship as part of their minor. The goal of this internship is to acquire relevant experience while working in a business or institution outside the university itself. An internship will be part of the master's programme for students who enrol in the UT's Mechanical Engineering master's programme after earning their bachelor's degree. If the student has already completed an internship during their Mechanical Engineering bachelor's programme at the UT, the internship during the master's programme will be replaced by subjects worth the equivalent number of credits.

J. Qualities pertaining to knowledge, insights and skills which students must have acquired

Paragraph 1 lists the qualities pertaining to knowledge, insights and skills which a student must have acquired by the time they finish the programme as part of the attainment targets.

K. Structure of the practicals

For practicals, there is an enrolment and participation obligation. The course itself describes how the study unit will be completed.

Absence during a study period may result in the failing of tests, exams, projects, or practical exercises. The programme accepts no responsibility for students' absenteeism.
In the event of force majeure (e.g. illness), the student must immediately contact the lecturer responsible for the study unit from which they were absent.

L. Study workload of the programme and each of its constituent study units

The study workload of the study units is listed under a and amounts to a total of 180 credits for the entire bachelor's programme: 150 credits for the major and 30 credits for the minor.

M. Number and prerequisites of the exams, tests and practical exercises

Refer to the assessment timetable for an overview of the number of exams and tests and the exam periods.

Oral exams and other exam components not listed in the assessment timetable will be held at a time set by the examiner(s) and the student together and, if the student so desires, within a month after the conclusion of the education for the examination unit in question.

Regarding the prerequisites for exams/tests and practical exercises, the following types of prescience apply:

- Desired prescience
  The student is expected to be familiar with the terminology and the subject matter of the study unit in question or a comparable study unit.
- Compulsory prescience
  The student is expected to have successfully participated in the study unit in question or a comparable study unit. The lecturer expects the student to have acquired the knowledge imparted during the study unit in question.

N. Admission requirements Minor

To participate in a minor, the student must have successfully completed all four modules from the first academic year (B1) and two modules from the second academic year (B2).

O. Admission requirements Module 12 (graduation)

At the start of module 12, modules 1-8 and 11 have to be completed with a sufficient grade.
In addition to this rule:

- Students who are participating in module 11 and have finished module 1-8 (with a sufficient grade) are allowed to start their final bachelor's assignment at the start of Q4 (module 12) without any additional requirements;
- Students who have finished module 1-7 (with a sufficient grade) and have to (re)sit no more than one test from module 8 are allowed to start their final bachelor's assignment. These students can finish their final bachelor's assignment during the (extra) mini conference in the second half of August.

All other students are NOT allowed to start their final bachelor's assignment unless the examination board gives them an exemption based on a motivated request from the student.
When a student meets the admission requirements or has obtained an exemption from the examination board, they may start their final bachelor's assignment at the beginning of each of the four quarters of the academic year. The student can finish their final bachelor's assignment during the mini conference at the end of each quarter.

P. Changes to a study unit

In the event of significant changes to an existing study unit with a written examination, a student who has participated in at least one exam of the study unit in question prior to the introduction of the changes has the right to resit the exam in its old form during the first two scheduled exam periods of the following academic year. Projects, practicals and subjects that conclude with an assignment are excluded from this regulation.
If a student wants to exercise this right, they must announce this to the lecturer in question at least twenty working days prior to the date of the resit exam.
In the event of significant changes to a study unit, students must be notified of these changes and of the existence of this regulation.
"Significant changes" are defined as the modification of at least 50% of the course content.

Q. Hardship clause

As a result of the combination of various subjects from various programmes, students may end up in a situation in which the number of credits (significantly) exceeds the legal maximum.
The student has the right to request the examination board to modify their standard programme by eliminating one or more subjects.
When making its decision, the examination board will take the following factors into account:

- The legal minimum scope of the programme will be maintained (at least 180 credits for the bachelor's programme).
- The student meets the attainment targets as listed under B.
- The excess is truly the result of changes to the standard programme.
- The request is feasible (and does not result in a disproportionate workload for the lecturer and/or support staff).

R. Instruction language and the language of the exams/examination

The instruction language of the second academic year (B2) and its examination units are in Dutch. The text of course materials may be written in English. If neither the examiner nor the examinee object, the examination unit in question may be held in English.

By way of derogation, the examination board may allow the eduational activity to be given in English in a limited number of cases:

- when it concerns one or several guest lectures
- when it concerns an educational activity from a lecturer with an insufficient command of Dutch as an instruction language

- when it concerns a subject that is also part of an English-language programme or when it concerns an institutionalised minor that uses English as its main language.

Furthermore, several study units will be in English to prepare students for the English-language education of the UT's master's programmes.

When English is used as the main language of a compulsory study unit, a student may request the examination board to take the exam in Dutch on the grounds of article 5.2 of the EER.

Reports may be required to be written in English. If that is the case, this will be recorded at the start – during the formulation – of the assignment.

The instruction language of the first and third academic years (B1 and B3) and their examination units is English.

S. Specific characteristics of the programme

The Mechanical Engineering bachelor's programme has several specific characteristics:

- There are safety requirements for working in workshops (and laboratories). Students are expected to be familiar with and comply with these requirements:https://www.utwente.nl/nl/et/intranet/arbo_milieu_huisvesting/Veiligheid/safety-regulations-et/ ,
- For some study units, it is not possible to achieve the learning objectives without the use of a laptop.
- The ultimate responsibility for the prevention of RSI lies with the students themselves. Via the Notebook Service Centre, information is distributed and tools are made available for the prevention of RSI.
- A student may only participate in the education if they are aware of and act in accordance with the safety and ARBO (occupational health and safety) regulations. This includes the specific regulations that apply to the ET faculty, e.g. the locker regulations.
- Property rights of the results of tasks, assignments and projects carried out as part of the programme rest with the Engineering Technology faculty.

The student in question cannot derive any rights from the (partial) results of projects, research or assignments carried out as part of the programme, unless otherwise agreed upon in advance with the faculty board and recorded in writing. Any agreements with third parties pertaining to the publicity of results must be recorded in advance.

T. Structure of the programme

The Mechanical Engineering bachelor's programme is a full-time study programme.

U. Student guidance during the programme

- The study adviser is tasked with the coordination and quality assurance of the mentorship.
- Every first-year student will be assigned a mentor at the start of their programme. The mentor is connected to the programme as an employee. After consulting with the study adviser, the student may be assigned a different mentor during their first year. The mentor supervises and advises the student during the first year of their bachelor's programme. Furthermore, the mentor will periodically discuss the student's study progress with them if their results provide reason to do so.
- The study adviser will – upon or without request – advise the examination board, the programme director, individual lecturers/examiners and students regarding any problems with the study workload or study progress of individual students or groups of students.

V. Facilities

- The intra- or internet are used for the provision of information for and about the programme and for administrative procedures. The UT makes use of an electronic learning environment. The design of the Mechanical Engineering bachelor's programme's education is based upon the assumption that students who enrol in this programme have access to a laptop. Students can make use of an offer from the University via the Notebook Service Centre (NSC). With their laptops, students can use the University's network and access the intra- and internet.
- Use of the computer and network facilities for non-study-related purposes may be seen as misuse.
- Every student will be assigned their own personal email address at the start of their education at the UT. This email address is used for all of the programme's electronic communication with a student.

- The University features lecture and tutorial spaces, accommodations for supervised and unsupervised studying, a library and research facilities that are in service of the University's education. The University has limited facilities for free access to computers.
- The programme makes a space available to the Isaac Newton study association for the execution of its activities.
- Misuse of or damage to UT facilities or misconduct can give the dean reason to temporarily exclude the student from participation in the education, exams and examinations, in addition to requiring reimbursement of the damages.
- The books and journals relevant to the Mechanical Engineering bachelor's programme can be found in e.g. the UT's Central Library and with the Isaac Newton study association. Regarding quantity, lending period, fines, etcetera, refer to the applicable regulations drawn up by the University Library and the Isaac Newton study association.
- If excursions, work visits, field research, etcetera are part of the programme's education in such a way that all students are expected or formally obligated to participate and if these activities do not take place within a distance that may reasonably be covered by bicycle, the programme will provide suitable transport at its own expense or reimburse students for their travel expenses, based on the cost of the cheapest available form of public transport. If the aforementioned activities consist of more than one day, the programme will provide suitable overnight accommodations.

W. Quality assurance

The programme's quality assurance will at least include the execution of the following activities on an annual basis:

- **Questionnaires at the end of each quarter, module or project.** Participating students are asked to fill out questionnaires at the end of each quarter or project.
- **Study unit evaluations.** A module component will be evaluated at least once every three years; if a study unit does not meet the criteria, it will be evaluated again the next time it is taught to determine whether appropriate measures have been taken.
- **Incidental activities.** If necessary, further research will be conducted in addition to the aforementioned activities (e.g. research into facilities, time usage studies, exit studies, questionnaires among alumni, etcetera).
- **Panel discussions.** Halfway through a module, lecturers and students will engage in discussions to exchange thoughts and experiences.

X. Master's programmes (WHW article 7.4a, 8th paragraph)

The Mechanical Engineering bachelor's programme provides direct admission to the University of Twente's Mechanical Engineering master's programme. Refer to this programme's students' charter for the admission regulations of this master's programme.

For more information about this programme's alignment with other master's programmes, the student may consult the website of the VNSU at http://www.studiekeuze123.nl or contact their study adviser or the Student Counselling Office.

Examination board regulations for the Mechanical Engineering bachelor's programme

Definitions Mechanical Engineering

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Module component:	component of a module for which a test result is registered in OSIRIS
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Programme director:	the programme director of the Mechanical Engineering (ME) programme
Pace of study:	the acquired number of credits divided by the number of credits that might nominally have been acquired

Article 1 The examination board

1. The dean of the faculty will establish an examination board for the purposes of holding the bachelor examination and for the organisation and coordination of the exams of the bachelor's programme.
2. The authority of the examination board covers all study units that are part of the student's programme.
3. The examination board consists of at least four members, including two professors.
4. The examination board consists of at least three staff members who are tasked with providing the programme's education and at least one "external member" not directly involved in the programme.
5. For the purposes of holding the exams, the examination board will appoint one or more examiners for each examination unit. If there are multiple examiners for one study unit, final responsibility will be assigned to one examiner.
6. Only staff members tasked with providing the programme's education or experts from outside the university (article 7.12 WHW) may be appointed as examiners.
7. If (parts of) a study unit are assessed by different examiners, the examiner with final responsibility will ensure that these assessments are all based on identical standards. The results for parts of an exam (tests, partial assignments) are recorded in writing by the examiner in their own administration. If the exam involves a module, the results of the tests are recorded in OSIRIS. Grades for subtests are recorded by the lecturer in their own administration.
8. The examination board may receive assistance from staff members involved in the programme, e.g. the programme director, the programme coordinator, the study advisor and/or mentors. They play an advisory role during meetings. The examination board may decide to delegate its authorizations to the chair or secretary and to delegate the execution to the programme board, in so far as the law or these regulations allow.
9. The meetings of the examination board are private.
10. The examination board delegates the evaluation of a student's passing or failing their B programme to the B committee.
11. The examination board and the B committee decide based on a majority of votes. In the event of a tied vote, the chair of the examination board casts the deciding vote.
12. If a member of the B committee cannot attend an examination meeting, they can be replaced by an authorised member. The substitute must report to the chair as such before or at the start of the meeting. The substitute will receive the voting right of the member they are filling in for, on the understanding that no more than one vote may be cast per person.
13. The B committee has the following composition:
    - Bachelor coordinator (chair)
    - Employee of the ME bureau of educational affairs (secretary)

    If desirable, the following persons may be asked for advice:
    - Study adviser
    - Period and/or module coordinators from the phase in question
    - Mentors
    - Lecturers responsible for study units from the phase in question

Article 2 Granting examination authorizations

1. The examination board draws up a list of examiners. In general, the person with primary responsibility for the education will also have primary responsibility for the assessment of the course results. The examination board uses the following criteria:
    a. Examination authority is grated to members of the UT's permanent or temporary staff (lecturers, senior lecturers, professors, teachers) who have met the education qualification requirements and are involved in the programme.
    b. The authorization is limited to the disciplines in which the staff members are recognised as experts.
    c. The authorization is limited to the next-lowest education level following the level at which the examiner has been educated.
    d. Staff members from partner universities also have examination authorization, provided that they meet the aforementioned requirements.
    e. In all other cases, the examination board will decide to grant someone examination authorization. This decision will mention the authorization's period of validity and the discipline.
    f. As a general rule, PhD and post-doc students must have assisted in the examination of a similar examination unit at least twice before they may be granted examination authorization for that unit.

Article 3 Principles of the examination board

1. For all organisational matters pertaining study programmes, the nominal programming of the education takes precedence. The regulations for examination stimulate studying in cohorts and attempt to prevent any study delays that would disrupt the programmatic order of the study programmes.
2. The examination board has the right to derogate from the education and examination regulations in certain cases in which the education and examination regulations explicitly grant this right.
   The examination board asks study advisers for advice regarding any decisions that concern individual students. Any information provided by the student in question will be treated confidentially. The student's study plan and any known causes of their study delay will be taken into account.
3. Regarding the situations referenced in paragraph 2, the following applies:
   If a student is seen as promising (pace of study at least 0.75), the examination board will consider whether their decision will contribute to the student's ability to complete their bachelor's programme in four years;
   If the student has incurred a significant study delay (pace of study between 0,5 and 0,75), the examination board will consider whether there are sufficient reasons to assume that – based on the student's study plan and their most recent results – their decision will prevent the student's pace of study from dropping any further;
   If the student is seen as disadvantaged (pace of study equal to or lower than 0,5), the examination board will consider whether their decision will improve the chance that the student will soon reconsider their study choice or the chance that the student successfully completes this programme.

Article 4 Writing and design of exams and tests and examination methods

1. Before an examiner holds an exam or test, at least one other expert lecturer will evaluate whether the exam or test in question is sufficiently representative, whether the questions are formulated unambiguously, whether the difficulty matches that of the education itself and whether the exam or test can be completed well within the available time by properly prepared students.
2. At a student's request, the examination board may permit an exam or test to be taken in a different manner than stipulated in the first paragraph.

Article 5 Written and oral exams

1. An individual oral exam will take no longer than 1.5 hours. An oral exam or test for a group of students will take no longer than four hours. The duration of a written exam or test is listed on the exam or test itself. The duration of an oral exam will be announced before the exam or test.
2. A written exam or test is evaluated based on predefined standards for the various questions or parts of questions that make up the exam or test.
3. The maximum number of points that can be earned per question of a written exam or test will be announced to students by listing it alongside each question.
4. If, while the exam or test is being held, it turns out that the possibility of completing the test within the available time was incorrectly assessed, either due to the clarity of the questions or due to the difficulty of the exam or test, the examiner will immediately report this fact to the examination board.
   The examination board is authorised to prescribe new standards to account for this fact.
   These new standards may not demonstrably affect students in a negative manner.

5. At least two examiners will be present during an oral exam or test for which more than two students will be assessed at the same time.
6. Oral exams or tests that are held for a group of students are private.
7. At all times, a member of the examination board has the right to attend an exam or test or to be represented by a substitute. The position of a substitute will be explained to the examinees.

Article 6 Registering for exams (see article 4.3 of the general EER)

Article 7 Order during exams

1. During each exam or test, the examiner will appoint one or more examination supervisors to ensure that the session proceeds in an orderly fashion. At least one of the examination supervisors is involved in the education of the study unit in question.
2. During an exam or test, a student must be able to identify themselves with their proof of registration (student ID).
3. If a student is delayed, they may still participate in the session up to fifteen minutes after the start of the exam or test.
4. Students may not leave the session during the first thirty minutes following the start of the exam or test.

Article 8 Fraud

1. Fraud refers to:
    a. Using more or other tools during an exam or (parts of) an examination unit than those which the lecturer listed in writing as permitted prior to the exam or (parts of) the examination unit.
    b. Using tools or aid during exams or (parts of) examination units which the student knew or should have known were not permitted. This includes cheating, either:
        i. By using notes, other tools and/or communication equipment
        ii. By looking at another person's exam or test or permitting others to look at one's own work
        iii. By communicating with other people, other than the staff responsible for holding the exam or test, during the hours of an exam or test session and before handing in one's work
        iv. By using parts of someone else's papers or completed assignments.
    c. Falsification of documents, including taking or having someone else take an exam or test under a false name.
    d. Behaviour of students which the lecturer announced in writing would be considered fraudulent before the start of the exam or (part of) the examination unit.
    e. Plagiarism: copying or allowing to be copied without correct source references.
2. When detecting (possible) fraud, the responsible lecturer will notify the student in question and the examination board in writing (via email).
3. Once fraud has been established, the lecturer will take the following measure(s) regarding the student in question:
    a. Grading the entire examination unit with a grade of 1 (one).
    b. This also applies to fraud in a part of an examination unit.
    c. Exclusion from participation in the exam in question for a period of no more than one year.
    d. The examiner can decide on an alternate assessment method for the student's examination unit.
4. The examination board has the right to impose additional measures for the student.
    a. If the examination board determines that fraud was committed, they can exclude the student(s) in question from participation in (for extreme cases) all exams for a period of no more than one year.
    b. An examination unit during which fraud was committed in any way may not be replaced by a different examination unit during the period of exclusion.

For written assignments, programming assignments, etcetera, the following regulations apply:

Individual assignments
There is one author who will receive an individual grade based on the assignment.
If passages are included or information is used which are/is derived from other people's work, the student must clearly indicate:
- which passages these are (e.g. by printing them in italics or between quotation marks);
- where they come from (by providing a clear source reference: a formal literature reference or a phrase such as "verbal information from Mrs XX").

"Individual" group assignments
Different group members are responsible for different components of the assignment.
- clearly list which group member was responsible for which component of the assignment;
If passages are included or information is used which are/is derived from the components written by other group members, the student must clearly indicate:
- which passages these are (e.g. by printing them in italics or between quotation marks);
- where they come from (e.g.: "…added to the fact that measures have shown this effect to be negligible (see chapter V of this report), leads us to conclude that …").
For anything derived from persons outside the group, the regulations for individual assignments apply.

"Joint" group assignments
The group as a whole is responsible for the entire contents of the report, even though each member wrote a different component of the assignment.
In that case, it is not necessary to indicate who was responsible for each observation.
Note that when using external sources, the rules for individual assignments apply here as well.
If the student does not follow these regulations and literally copies or paraphrases someone else's work without a proper source reference, they are committing plagiarism.
Both copying without a source reference and allowing one's work to be copied are considered plagiarism/fraud.
During joint group assignments, the entire group can be held responsible for the fraud.

Article 9 Regulations in the event of an emergency

If there is an emergency or an impending emergency shortly before or during an exam or test, the following regulations apply:

1. If there is an expected emergency before the start of an exam or test, the exam or test will immediately be postponed. The examiner will set a new date and time for the exam or test together with the programme director.
2. The new date and time for the exam or test, which will take place within a month (not including holidays), is binding. It will be announced via the usual channels within three working days after the building has been cleared.
3. If there is an emergency or an expected emergency during an exam or test, the following actions must be taken if possible:
    a. The student has written their name and student number on all exam or test materials at the start of the exam or test;
    b. The people present must immediately leave the room when ordered by the responsible organisation or examination supervisor;
    c. The students leave their exam or test in the room;
    d. If students have had a chance to begin their exam or test, the (partially) completed work will be used by the lecturer to determine the final grade, if it is reasonably possible to do so.
4. If the lecturer cannot determine the final grade based on the provisions of article 9.3d, a resit opportunity will be scheduled for the affected students within a month (not including holidays) after the date of the original exam or test, provided that these students had signed up for the initial exam or test.

Article 10 Pass/fail regulations

1. The examination board will draw up pass/fail regulations for each of the exams.
2. For students of the
    a. cohort 2017 and later: a module during the first academic year, the second academic year and the second semester of the third academic year is successfully completed if the final rounded exam grade is at least a 6 and all grades for the module components are >= 5.5. If, after any resits (see article 11.3), only one module component of a module part is < 5.5, the grades for all other module components within that module part will be valid indefinitely and the module component in question can be retaken during subsequent academic years. If the grades for more than one module component within a module part are < 5.5, the entire module part must be retaken. If a module part consists of only one module component (i.e. MO2.1, MO5.1, MO11.1, MO11.2, MO11.3, MO11.4), the test result will be valid indefinitely if the grade for the module part (and therefore the module component) is >=5,5. If a module consists of multiple module parts, multiple module parts can be retaken during subsequent academic years.
    b. cohort 2016:
        i. During the second academic year and the second semester of the third academic year, the regulations for students from the cohort 2017 and later apply (see above).
        ii. For original modules from the first academic year, the pass/fail regulations of the 2016-2017 academic year will apply. Students who have to retake an entire module under the code of a later cohort (replacement module) fall under the pass/fail regulations of the 2017-2018 academic year for that module.
    c. cohort 2015:

i. During the second semester of the third academic year, the regulations for students from the cohort 2017 and later apply (see above).
ii. For original modules from the first and second academic years, the pass/fail regulations of the 2015-2016 academic year, respectively the 2016-2017 academic year will apply. Students who have to retake an entire module under the code of a later cohort (replacement module) fall under the pass/fail regulations of the 2017-2018 academic year for that module.

d. 2014 and all other TOM students:
i. For modules from the first academic year, the second academic year and the second semester of the third academic year, the pass/fail regulations of the 2014-2015 academic year, respectively the 2015-2016 academic year, respectively the 2016-2017 academic year will apply. Students who have to retake an entire module under the code of a later cohort (replacement module) fall under the pass/fail regulations for the 2017-2018 academic year for that module.

e. For all cohorts, a study unit during the first semester of the third academic year is successfully completed if the rounded grade is at least a 6.
f. A grade between 0 and 1.49 is rounded to a 1.

3. If (parts of) a module is/are assessed by different examiners, the examiner/coordinator/module coordinator will ensure that these assessments are all based on identical standards. The results for parts of an exam (tests, partial assignments) are recorded in writing by the examiner in their own administration. If the exam involves a module, the results of the tests and partial assignments are recorded in OSIRIS (see also article 4.1 of the general EER). Grades for subtests are recorded by the lecturer in their own administration.
4. A module during the first, second and third academic years is a study unit worth 15 credits. Each module consists of multiple components that are individually assessed with a test. The module grade is the weighted average of the test results rounded to one decimal place. The weighting of the module components is listed in the assessment schedule as described in article 4.4 of the general EER.
5. The assessments are generally expressed using a grade between 1 and 10. The individual grades have the following meaning:

1: very poor	4: unsatisfactory	7: more than sufficient
2: poor	5: not quite sufficient	8: good
3: very unsatisfactory	6: sufficient	9: very good
		10: excellent

Exam components may also be assessed alphanumerically:

C4	Compensated 4	O	Unsatisfactory
C5	Compensated 5	V	Sufficient
NV	Did not show	VR	Exemption
NVD	Did not complete	HNTD	Does not have to do

6. Results from other institutions that are included in the student's examination programme with the examination board's consent are not translated to the UT's assessment system. If a different assessment system was used (i.e. no grades from 1-10 as outlined in the table in article 12.4), sufficient results are registered as "V" and unsatisfactory results as "O." The scope of the study unit in question is translated into the equivalent number of credits.
7. If bonus credits are awarded for a study unit, this may never result in an unwarranted passing grade for this study unit.
8. The examination board has the option to declare a grade invalid if it was acquired in a manner that violates these regulations.

Article 11 Assessment regulations

1. Completion of the B programme (first, second and third academic years)
   a. The student has successfully completed their B programme if all twelve modules (study units) have been successfully completed.
2. The assessment of the premaster's programme
   a. Each of the components of the premaster's programme will be assigned a full grade, "exemption" (VR), "unsatisfactory" (O) or "sufficient" (V) as an assessment result.
   b. The assessment "VR" provides an exemption for the examination component in question.
   c. The student has passed their premaster's programme in accordance with the regulations if:
      i. All theoretical subjects, practical exercises and projects have been completed with an assessment result and the list of grades does not include an "unsatisfactory" (O) or a grade of 5 or lower.
      ii. These results are achieved within eight months of the student's enrolment at the UT.
   d. A student who passed their premaster's programme will acquire regulatory admission to the Mechanical Engineering master's programme. If the prerequisites for regulatory admission have not been met, the examination board may admit the student to the programme if their overall grades and/or exceptional conditions provide reason to do so.

e. A student who passes their premaster's programme will not receive a bachelor's certificate.

3. Resits
    a. One resit opportunity is available for every module component during the ongoing academic year and at the date and time listed on the assessment timetable.
4. Additional requirements pertaining to the (binding) recommendation (BSA)
    a. The 75% of the study workload referenced in article 6.3 paragraph 7 of the general EER must consist of three successfully completed modules or two successfully completed modules (which make up 50% of the study workload) and 25% in module components from the other two modules that will be valid indefinitely on the grounds of article 10 paragraph 2.

Article 12 Graduation with distinction

1. The examination board will draw up distinction regulations for the bachelor's programme.
2. These regulations include the following criteria:
    a. When a student has demonstrated exceptional ability in his bachelor's exam, this can be stated on the diploma with the words "Cum Laude."
    b. Displaying exceptional ability requires the student to meet each of the following conditions:
        i. The average of the exam grades for the study units of the B programme, excluding the study units of the first semester of the third academic year, is at least 8.0.
        ii. When calculating the aforementioned average, study units that were not evaluated with a grade or for which an exemption was given are not included.
        iii. No more than one study unit was graded with a 6.
        iv. Exemptions were granted for no more than a third of the total bachelor's programme.
        v. The final grade for module 12 (final bachelor's assignment) is at least an 8.
        vi. Any additional study units are not included under the aforementioned regulations.
        vii. The bachelor's programme was completed within four years, unless exceptional circumstances, in the opinion of the examination board, justify a greater exceeding of the study duration. These exceptional circumstances include the conditions that are grounds for granting graduation support.

    If these guidelines are not fully met, the chair of the graduation committee or the bachelor coordinator can submit a proposal to the examination board to award the designation "with distinction". In that case, the special circumstances and the exceptionality of the achievement must be properly substantiated.

Article 13 Degree certificates (see article 5.4 of the general EER)

Article 14 Exemptions

The examination board will grant an exemption from participation in the exams or tests of a study unit and/or participation in practical exercises if:

1. an equivalent (in terms of level) and similar (in terms of the nature of the objectives) study unit was completed as part of a different programme or at a different certified and equal higher education institution.
2. the student has achieved the intended learning goals in some other manner, as demonstrated by evidence provided by the student and evaluated by an authorised examiner.

Article 15 Entry into force

These regulations enter into force on 1 September 2017 and replace the regulations of 1 September 2016.

Adopted by the examination board for the Mechanical Engineering and Sustainable Energy Technology programmes,

Enschede, 1 September 2017.