

UNIVERSITY OF TWENTE.

Education and Examination Regulations

Programme specific appendix Bachelor's programme Civil Engineering

2021-2022

PREFACE

The rules set out in this document are part of the programme-specific part of the students' charter, including the education and examination regulations, of the Civil Engineering Bachelor's programme (B-CE, CROHO number 56952) of the Faculty of Engineering Technology of the University of Twente. Any references in this document to the articles in 'EER2021' refer to the General Section of the programme part of the student's charter, including the education and examination regulations for the Bachelor's programmes 2021-2022.

These rules apply to all students, but individual students have the right to submit a request for an alternative programme. Also, the Programme Director can decide to take a general or individual action that deviates from the regulations, provided that it is not to the disadvantage of the student(s). Note that whenever the male gender is used in this document, this can be understood as referring to the other genders as well.

For general information, reference is made to the 'Student Charter of the UT, the institution-specific part' (<https://www.utwente.nl/en/ces/sacc/regulations/charter/>). For general information about the study programme, reference is made to the education page of the Bachelor's programme in Civil Engineering (<http://www.utwente.nl/ce>) and, for information about course content, to the Course Catalogue (<http://osiris.utwente.nl>), whenever necessary.

Rights can be derived from this document by the faculty as well as by the students of the programme for which the student has enrolled. This does not apply with respect to all other written and electronic publications, such as:

- The information on the websites of the programmes;
- The study catalogue of the UT;
- Brochures and manuals.

The CE EER is published on the website of the programme. A printed version will be made available upon request (free of charge).

In situations not covered by the CE EER, a decision will be made by the Dean of the Faculty of Engineering Technology or by the Examination Board of the Civil Engineering programme, depending on the responsibilities defined by law. The same applies in the event of (alleged) ambiguity, inconsistencies, differences in interpretation and/or (apparently) conflicting texts. The Dean or the Examination Board will inform the involved examiner(s) and/or the student(s) of the decision.

In cases in which strict application of the CE EER would cause clearly unintended or unreasonable situations, the Examination Board, the Dean or the Programme Director can deviate from the regulations, provided that this does not incur any negative effects for the student. This decision must be motivated in writing and must be communicated to the student, the Examination Board, the Dean, the Programme Director and the Educational Affairs Office (BOZ).

Reference: Enschede, 21 June 2021

Prof. dr. ir. H.F.J.M. Koopman

Dean of the Faculty of Engineering Technology

TABLE OF CONTENTS

Preface	2
Table of contents	3
Article 1. General conditions.....	5
1.1 Applicability of the Education and Examination Regulations	5
1.2 Definition of terms.....	5
Article 2. Admission	7
2.1 Requirements for previous education.....	7
Article 3. Aims and Vision of the programme	8
3.1 Aims and vision of the programme.....	8
3.2 Purpose of the programme.....	10
3.3 Language.....	10
3.4 Study Abroad.....	10
Article 4. Education and programme	10
4.1 Twente Educational Model (TOM).....	10
4.1.1 TOM2.0.....	10
4.2 Organisation of the programme.....	11
4.2.1 Coherence of study units.....	13
4.3 Study load of the programme	13
4.4 Practical Exercises	13
4.5 Period of validity of passed examinations	13
4.6 Other requirements.....	13
4.7 Requirements for the composition of the minor.....	14
4.8 Approval, publications and registration of results.....	14
4.9 Right of inspection and discussion	14
4.10 Binding Recommendation on continuation of studies	14
4.11 Master programmes	15
Article 5. Final degree.....	15
5.1 Examination of the programme	15
5.1.1 Requirements	15
5.1.2 Duration	15
5.1.3 Members of the graduation committee.....	15
5.2 Degree	16
5.3 Cum Laude	16
Article 6. Student guidance.....	16
6.1 Student guidance.....	16
6.2 Practical Realization of Counselling	17

Appendix 1. Practical Information.....	17
Contact information	17
Programme Committee (OLC).....	17
Examination Board	17
Study Association	17
Information supply	18
Facilities.....	18
Teaching methods	18
Timetables	18
Quality assurance	19
Complaints.....	19
Appendix 2. Transition Regulations.....	20
Appendix 3. Regulations of the Examination Board.....	23
Regulations of the Examination Board.....	23

ARTICLE 1. GENERAL CONDITIONS

1.1 Applicability of the Education and Examination Regulations

- 1) This Education and Examination Regulations (EER) applies to the education and the examinations of the bachelor's programme in 'Civil Engineering (CE)', hereafter called: the CE programme.
- 2) The CE programme is provided under the responsibility of the Faculty of Engineering Technology at the University of Twente, hereafter called: the Faculty.
- 3) The final responsibility for the implementation of the education programme rests with the Programme Director and for assessment with the Examination Board.
A student who doubts the compliance of any element of the CE programme with the EER can ask the Programme Director for clarification. The student has the right to appeal against a decision that has been taken.

1.2 Definition of terms

The terms used in this document should be interpreted as follows:

Academic Year	The period that starts on 1 September and ends on 31 August of the following year.
Assessment plan	A plan indicating how the testing of a module is organised. At first, it states the grading of the study units of the module, and secondly, the conditions for passing the entire module (including possible compensation rules within the module and compensation rules for study units or parts of study units of different modules).
BOZ-CE	Educational Affairs Office
BSA	Recommendation on continuation of studies in accordance with Article 7.8b, paragraphs 1 and 2 of the WHW to which a rejection in accordance with Article 7.8b, paragraph 3 of the WHW is attached, issued by the programme board on behalf of the institutional board.
Canvas	University of Twente's digital learning environment
CE	Civil Engineering department and programme of the Faculty of Engineering Technology
Colstruction	Combination between a lecture and a tutorial
Compulsory Holiday	Required day off
Curriculum	The entirety of compulsory and optional study units belonging to the programme, as set down in the programme-specific appendix.
European Credit (EC)	A unit of 28 study load hours, in accordance with the European Credit Transfer System. A full-time academic year consists of 60 credits, equal to 1680 hours of study (Article 7.4 of the WHW).
Exam	An evaluation in a study unit of the knowledge, understanding and skills of the student, as well as the assessment of the results of this evaluation (Article 7.10 of the WHW); an exam may consist of a number of tests.
Examination Board	The body that establishes objectively and expertly whether a student meets the criteria set in the education and examination regulations regarding knowledge, insight and skills needed for obtaining a degree.
Examiner	The individual who has been appointed by the Examination Board in accordance with Article 7.12c of the WHW to hold exams and tests and determine their results.

Exemption	Establishing by the Examination Board that a student has acquired competencies, i.e. on account of exams or final examinations in the higher education domain passed earlier, or knowledge or skills acquired outside the higher education domain, that are comparable in content, size and level to one or more study units or parts thereof.
Faculty	The Faculty of Engineering Technology of the University of Twente
Faculty Board	Head of the faculty (Article 9.12 of the WHW)
Final Examination	A programme concludes with a final examination. A final examination is deemed successfully completed if the study units belonging to a programme have been completed successfully unless the Examination Board has decided that the examination shall also comprise an evaluation to be conducted by the Examination Board itself (Article 7.10 of the WHW).
Institution	University of Twente
Institutional Board	The Executive Board of the University of Twente
Module	A total of 15 EC of one or more study units in which disciplinary knowledge, skills and attitude are developed and assessed in an as integrated and/or coherent way as possible.
Module coordinator	The individual charged by the Programme Board with organising the module.
Module examiner	In case the module consists of one study unit, the individual designated by the Examination Board to determine the result of the module.
Osiris	System designated by the institutional board for registration and for providing information on all relevant data related to the students and the university, as described in the WHW.
Panel discussion	Panel discussions are held after each module of every academic year (B1, B2) with students who participated in the programme in that module.
PCC (CPO)	Personal Circumstances Committee. A committee formed by the institutional board that issues advice to the programme board in individual cases concerning the validity, term and seriousness of the personal circumstances of the student involved.
Practical exercise	<p>A practical exercise as referred to in Article 7.13, paragraph 2 (d) of the WHW is a study unit or a study unit component emphasizing an activity that the student engages in, such as:</p> <ul style="list-style-type: none"> carrying out literature research, completing an assignment or preparing a preliminary design, writing a thesis, article or position paper, or giving a presentation in public; carrying out a design or research assignment, doing tests and experiments, participating in practicals, practising skills; work placement, fieldwork or excursions; participating in other educational activities deemed necessary and aimed at achieving the required skills, such as targeted practice of clinical skills in a specifically equipped skills lab.

Programme	The Bachelor's CE programme
Programme Board	The committee charged by the Faculty Board with managing the programme. This may also be an individual person, in which case the term Programme Director is used.
Programme Committee	Programme Committee as referred to in Art. 9.18 of the WHW.
Programme Director	The Programme Director of the CE programme.
Student	Anyone registered with a programme in accordance with article 7.34 and 7.37 of the WHW.
Study Advisor	Person appointed by the Faculty Board who acts as contact between the student and the programme, and as such represents the interests of the students, as well as fulfilling an advisory role.
Study Unit	A component of the programme as described in Article 7.3, paragraphs 2 and 3 of the WHW. Every study unit concludes with an exam.
Test	An evaluation of the knowledge, understanding and skills of the student, as well as the assessment of the results of this evaluation. A test is a part of an exam. If a study unit has only one test, this coincides with the exam for the unit in question.
UT	University of Twente
Website	The website www.utwente.nl/ce , unless stated otherwise
WHW	The Higher Education and Research Act (abbreviated to WHW), Bulletin of Acts and Decrees 1992, 593, and its subsequent amendments.
Working day	Any day from Monday to Friday with the exception of official holidays and the prearranged compulsory holidays (compulsory days free of work) on which the staff is free.

Any terms not defined here have the meaning assigned to them by the WHW.

ARTICLE 2. ADMISSION

2.1 Requirements for previous education

Admission to the programme is granted if the requirements with regard to prior education for enrolment in university education are met, in accordance with the WHW, Articles 7.24, 7.25 and 7.28. The conditions pertaining to this can be found on the University of Twente's website.

ARTICLE 3. AIMS AND VISION OF THE PROGRAMME

3.1 Aims and vision of the programme

The mission of the Civil Engineering Department is to develop, apply and disseminate knowledge and novel solutions in the domain of civil engineering, contributing to a sustainable, efficient, safe and resilient society. Civil Engineering at the University of Twente aims to be an internationally oriented leading scientific department that develops, applies and disseminates knowledge and tools for Civil Engineering in a societal and environmental context. The overall aims of the Civil Engineering programme are:

- 1) To train high-quality engineers with a wide range of competencies: The competencies (knowledge, skills and attitude) ensure that the students understand and apply current knowledge, that they are able to use state-of-the-art methods, techniques and tools, and that they show a professional attitude that will allow them to perform at high levels;
- 2) To educate students as critical professionals who are able to serve as and collaborate with professionals in various national and international settings;
- 3) To provide a stimulating and supportive environment in which students can learn the competencies that will be expected of the Civil Engineers of tomorrow;
- 4) To realise regular involvement with the national and international civil engineering field at all levels;

Regarding academic competencies the graduate has the following intended learning outcomes (4TU Academic criteria (Meijers' Criteria)):

A Bachelor of Science graduate of the CE degree programme is / has

- 1) Competent in one or more scientific disciplines
 - a. The graduate understands the knowledge base of Civil Engineering^{*)} and of Technical Process Management in the field of Civil Engineering (i.e. the part of Business Administration and Public Administration relevant for Civil Engineering), is able to apply this knowledge, and is able to maintain and expand his or her knowledge in the field of Civil Engineering and Management^{*)} particularly in the following subfields:
 - i. Building and Infrastructure;
 - ii. Traffic and Transport systems;
 - iii. Hydraulics of natural water systems.
This includes the required knowledge of related fields, such as Mathematics and Physics.
 - b. The graduate is able to combine knowledge from Business and/or Public Administration with technical knowledge and apply this in an integral way within civil engineering systems, projects or processes of limited complexity.
- 2) Competent in doing research
 - a. The graduate is able to identify knowledge gaps within a subfield of Civil Engineering and Management.
 - b. The graduate is able to formulate research problems and is able to produce and carry out a research plan (under supervision), by applying an appropriate methodology, analysing and discussing the results and drawing conclusions from the results.
 - c. The graduate understands the potential benefits of research.
 - d. The graduate is able to assess research within a subfield of Civil Engineering and Management on its usefulness.
- 3) Competent in designing
 - a. The graduate is able to:
 - i. Create a functional design of civil engineering constructions of limited complexity;
 - ii. Design management processes with limited complexity in the field of Civil Engineering.
 - b. This means that:
 - i. The graduate has synthetic skills with respect to design projects;

- ii. The graduate is application-oriented towards the Civil Engineering field when designing;
 - iii. The graduate is able to find a balance between possible solutions of requirements, technical possibilities and genuine interests of the parties involved.
- 4) A scientific approach
 - a. The graduate has the habit of reflecting upon his or her own work and continuously uses relevant information to improve his or her capabilities.
 - b. The graduate has the attitude of encouraging his or her personal development and improving his or her expertise.
 - c. The graduate makes decisions based on facts, quantified information and solid arguments and is able to evaluate these decisions.
 - d. The graduate is able to judge if available tools and techniques suffice for the problem at hand, is able to apply the proper tools and techniques and is able to contribute to the development of new tools, theories and techniques if these are not available.
 - e. The graduate is able to develop a model to describe/schematize parts of reality of limited complexity, i.e. the graduate is able to describe civil engineering processes and objects qualitatively (in terms of basic principles) and, where necessary and possible, is able to quantify this description in terms of mathematical relationships.
 - f. The graduate knows that models only approximate reality and is able to use them appropriately whenever this is beneficial.
 - g. The graduate's scientific attitude is not restricted to the boundaries of Civil Engineering and Management.
- 5) Basic intellectual skills
 - a. The graduate is able to work independently on assignments / projects of limited complexity.
 - b. The graduate is able to work systematically and methodically.
 - c. The graduate is able to analyse problems and information thoroughly and systematically, is aware of analogies between problems and is able to determine connections between different aspects of problems or information of limited complexity.
 - d. The graduate is competent in numeracy and is aware of orders of magnitudes.
 - e. The graduate is able to reflect on issues in the different subfields of Civil Engineering and Management.
- 6) Competent in cooperating and communicating
 - a. The graduate is able to work effectively in a multidisciplinary environment, can act in different roles depending on the situation, and can take responsibility as a team member.
 - b. The graduate knows the importance of oral and written communication, and can make effective use of them, which means that:
 - i. The graduate is capable of collecting and selecting relevant information;
 - ii. The graduate is skilled in properly documenting and presenting results of his or her work, including the underlying knowledge, choices and considerations, to colleagues and to a broader public;
 - iii. The graduate is competent in reasoning;
 - iv. The graduate adheres to existing academic conventions, such as giving proper credit and referencing.
- 7) Takes account of the temporal and societal context
 - a. The graduate is able to position the field of Civil Engineering in its societal context.
 - b. The graduate is able to form an opinion or judgement and contribute to discussions about matters related to Civil Engineering and Management.
 - c. The graduate knows that compromises are unavoidable and is able to deal with them.
 - d. The graduate is aware of the disadvantages for society of certain decisions.

3.2 Purpose of the programme

The BSc programme aims to provide academic knowledge, understanding, competencies and skills in the domain of CE and certain sub-domains of Business Administration and Public Administration at a level which qualifies the graduate for:

- 1) Independent professional practice at the BSc level in the field of CE;
- 2) Enrolment in education programmes at the MSc level in the field of CE.

3.3 Language

- 1) The language of instruction is English for the entire Bachelor CE programme.
- 2) If another language than English is used, it is in terms of exception and always has to be approved by the Examination Board.
- 3) The BSc-thesis is executed in English. If another language is preferred, this is in consultation with the supervisor and the company, however, the clear preference is English. In case the BSc-thesis is executed in another language than English, the student is obliged to provide an executive summary of the final report in English.

3.4 Study Abroad

The programme has the aim of stimulating all students to have an international experience during the study. This can be a graduation project and/or attending a number of regular courses at a foreign university as part of the Minor or Module 12. For the extra costs incurred by Study Abroad, there are subsidy regulations for which can be applied once during the programme. Please refer to the subsidy regulations for further information: <http://intoffice.utwente.nl/en/financial/>

ARTICLE 4. EDUCATION AND PROGRAMME

4.1 Twente Educational Model (TOM)

In 2013 the UT implemented project-led education (called TOM, Twente Educational Model) in all its BSc programmes. In TOM, thematic modules, worth 15 EC each, focus on a particular project. The programme Civil Engineering covers three academic years. An academic year is divided into four quartiles with a schedule of ten (or eleven) weeks. Each thematic modules (15 EC) covers a full quartile. A module consists of different, interconnected study units. The modules can be categorised into 3 phases:

- 1) Module 1 till 4, provided in the first year of the CE programme, offer an introduction into Civil Engineering and cover the three core themes: building, water and traffic. These modules are orientational and selective modules (selective because of the Binding Recommendation at the end of the first year).
- 2) Module 5 till 8 cover the second year of the programme and consist of modules with integrated topics. Students are provided with more in-depth knowledge.
- 3) The third year of the programme consists of the Minor (elective space, Module 9 and 10) and the graduation semester (Module 11 and 12).

4.1.1 TOM2.0

As of Academic year 2020-2021, an adapted form of TOM is implemented: TOM2.0. TOM2.0 holds on to the project-led education, while having the option to release the strict rule of 0 or 15 European Credits (ECs) per module. Within TOM2.0, the CE-modules will still be thematic, project-led modules consisting of several study units. The main difference is that in most modules, the credits of the study units will be registered separately. Compensation within a module will not be allowed anymore. Although the study units are registered separately, the study units within a module are coherent and should be taken together.

4.2 Organisation of the programme

The Civil Engineering programme consists of the following components:

- 1) The core programme, consisting of 8 modules
- 2) The differentiation programme, consisting of:
 - a. Two elective modules (Minor)
 - b. A graduation semester (Modules 11 and 12)

In the table below, an overview of the CE programme's modules including study units is provided.

The course descriptions, including testing methods as referred to in art. 4.4 section 1 of the EER2021, can be found in the Osiris course catalogue: <https://osiris.utwente.nl/student/OnderwijsCatalogus.do>. For the number and order of tests and practical exercises see the test schedule of the Module, which is published on the Canvas site of that Module (EER2021 article 4.4 section 4).

Module	Course	Name	EC
Module 1:	202000041	Introduction to Civil Engineering	15
	202000042	Fundamentals of Civil Engineering	2
	202000043	Structural Mechanics 1	4
	202000044	Civil Engineering Design Project	5
	202001189	Introduction to Mathematics and Calculus 1A	4
Module 2	202000048	Water Management	15
	202000049	Fluid Mechanics 1	2
	202000050	Measurements in Fluid Mechanics	1
	202000051	Water	2.5
	202000052	Policy Processes	1.5
	202000055	Python	1
	202000054	Project Blue Nile	4
Module 3	202000056	Traffic and Transport	15
	202000057	Theory Traffic & Transport	5
	202000058	Project Traffic & Transport	7
	202001204	Linear Algebra	3
Module 4	202000060	Designing Constructions	15
	202000061	Structural Mechanics	3
	202000062	Introduction Project Disciplines	4.5
	202000063	Design of Constructions project	4.5
	202001220	Calculus 2	3
Module 5	202000064	Safety and Risk in Deltas	15
	202000065	Soil Mechanics	2

	202000066	Fluid Mechanics 2	2
	202000067	Water Management	2.5
	202000068	Project Flood Risk	6
	202000069	Matlab	0.5
	202001226	Vector Calculus	2
Module 6	202100168	Sustainable Civil Engineering	15
	202100169	Design Strategy and Sustainable Civil Engineering Project	3.5
	202100170	Structural Mechanics	3.5
	202100171	Environmental and Economic Sustainability	3
	202100172	Social Sustainability	3
	202100173	Energy	2
Module 7	202000072	Area Development	15
	202000073	Practical GIS	2
	202000074	Economic Assessment	2
	202000075	Spatial Policy and Law	2
	202000076	Stakeholder Analysis and Management	2
	202000077	Project Area Development	7
Module 8	202000078	Modelling and Analysis of Stochastic Processes	15
	202000079	Multidisciplinary project	2
	202000080	Simulation and Heuristics	3
	202000081	Project Simulation and Heuristics	3.5
	202000082	Project Simulation of Traffic Flow	3
	202000083	Traffic Flow Dynamics	3.5
Module 9	202000093	Minor B-CE: Smart Cities - Multifunctional Flood Defences	15
Module 10:	202000099	Minor B-CE: Smart Ways To Make Smart Cities Smarter	15
	202000100	Introduction to Smart Cities	6
	202000101	Smart City Engineering Project	9
Module 11	202000085	Preparation BSc-thesis Civil Engineering	15
	202000086	Production of Knowledge	7
	202000087	Preparation BSc Thesis	8
Module 12	202000089	Bachelor Thesis	15
	202000090	BSc Research Assignment	15

4.2.1 Coherence of study units

The programme consists of 2 integrated modules (modules 9 and 12) and 10 coherent modules that have different study units. The overview of modules and study units can be found in paragraph 4.1 or on the programmes' website (<https://www.utwente.nl/en/ce/>). For each module, a module manual will be published on the Canvas page of the module. In this manual students can find an overview of the module and its study units. Although the study units are registered separately, the study units within a module are coherent and should be taken together. In case of retaking certain study units, students are urged to take no more than 15 EC per quartile. It is not allowed to enrol in take two projects in the same quartile.

4.3 Study load of the programme

The programme is a full-time programme. The differentiation programme of the B-CE programme consists of a minor and the Bachelor thesis.

The study load of the Civil Engineering programme is 180 EC of which:

- 120 EC for the core programme
- 30 EC for the minor (elective modules)
- 30 EC for the graduation semester

4.4 Practical Exercises

- 1) Each module of the study programme in year 1 (B1) and year 2 (B2) of the Civil Engineering programme has a practical exercise in the form of a design project that is an integral part of the module.
- 2) The graduation semester (second semester of B3) of the Civil Engineering programme includes a number of practical exercises in the form of (individual and group) assignments.
- 3) In addition, other practical exercises may be part of study units throughout the entire programme. More information on these practical exercises can be found in the descriptions of the study units of the study programme.
- 4) Practical exercises or projects can, generally, only be done once per academic year. It is not allowed to enrol in 2 projects in the same quartile.

4.5 Period of validity of passed examinations

- 1) Coherent modules consist of study units with their own grades. The coherent module itself is not graded. Each study unit is tested with an exam.
- 2) Exam results remain valid indefinitely in case a study unit is passed. Otherwise a study unit needs to be redone completely, except for practical exercises.
- 3) The exam can consist of multiple tests. Results of partial tests of a study unit expire upon completion of the academic year in case the study unit was not passed successfully (see article 4.7.2 EER2021). Exceptions are listed in appendix 2 and in the assessment plan of the module.
- 4) In the study progress overview, coherent modules are registered with separate study units with their own grades and ECs.

4.6 Other requirements

Conditions for taking specific parts of the final examination of the Civil Engineering programme are as follows:

- 1) Participation in a Minor is only allowed if the student has completed a minimum of 6 modules in total from B1 and B2.
- 2) Participation in the Graduation Semester (modules 11 and 12) is only allowed if the student has fully completed modules 1-8 (years B1 and B2).
 - a. An exemption is that a student is allowed to take study units up to a maximum of 4EC from module 7 simultaneously with module 11. Permission from the Study Advisor is mandatory.
- 3) For students of cohort 2012 and earlier, the programme no longer offers any possibilities to complete subjects of B1 and B2 of the examination programme applicable at that time.

- 4) For information regarding the application for exemptions, see the Rules and Regulations of the Civil Engineering Examination Board.

4.7 Requirements for the composition of the minor

In the first semester of B3 (modules 9 and 10), students can select minors for the realisation of their profiling track.

- 1) Students can choose (a combination of):
 - a. [High Tech Human Touch Minors \(HTHT\)](#)
 - b. [Educational Minor, Crossing Borders](#)
 - c. [More UT minors](#)
 - d. [Studying abroad](#)
 - e. [Minor at another educational institute](#)
 - f. [Transfer minor \(transfer to a master of another educational program\)](#)
- 2) In addition to the admission rules on the website (<https://www.utwente.nl/onderwijs/keuzeruimte/minor/>), the Examination Board has ruled that some minors cannot be selected in the differentiation programme, or can only be selected under specific conditions. These minors are listed in the table below.

Minor	Restriction
Crossing borders	Not allowed in combination with the Study Tour Civil Engineering in the Bachelor programme

- 3) Study abroad: Students can, in consultation with and after approval by the Study Advisor, go for an exchange semester at one of the partner universities of the UT. A list of partner universities can be found on the website: <https://www.utwente.nl/en/et/student-mobility/partners/>
 - a. An exchange minor may contain foreign language courses up to a maximum of 5 EC.
 - b. For more information on the procedure for an exchange minor, see <https://www.utwente.nl/en/et/student-mobility/outgoing/exchange-procedure/>
- 4) Free Minor: instead of attending modules at the UT, the student can include another Minor in his program, consisting of components offered outside the University of Twente. In that case a written approval of the Examination Board is required (to be applied for at the Study Advisor). Such free minors must meet the following criteria:
 - a. Contains (almost) no parts that are also part of the CE core programme

4.8 Approval, publications and registration of results

The programme specific rules for CE regarding test results are described in the Rules and Regulations of the Examination Board and can be found on the website of the Examination Board CE/CEM/CME (<https://www.utwente.nl/en/cem/organization/examination-board/>).

4.9 Right of inspection and discussion

The programme specific rules for CE regarding inspection of exams or tests are described in the Rules and Regulations of the Examination Board and can be found on the website of the Examination Board CE/CEM/CME (<https://www.utwente.nl/en/cem/organization/examination-board/>).

4.10 Binding Recommendation on continuation of studies

In accordance with EER2021 article 6.3, paragraph 3C, the Programme Board may set programme-specific requirements that must be met. Students who started their CE education from 2020-2021 must meet the following rule:

At the end of the first year of the CE programme, the student has:

- 1) Acquired at least 45 EC of B1 study units of the CE-bachelor programme (grade 6.0 or higher); AND
- 2) 4 out of 7 technical study units need to be passed (grade 6.0 or higher).

- a. The technical study units in the B1 CE-programme are: Structural Mechanics 1, Structural Mechanics 2, Fluid Mechanics 1, Introduction to Mathematics & Calculus 1A, Calculus 1B, Linear Algebra, and Calculus 2.

4.11 Master programmes

- 1) The Civil Engineering Bachelor's programme gives direct access to the Master's programmes Civil Engineering and Management (CEM) and Construction Management and Engineering (CME) of the University of Twente. For the admission rules for these Master's programmes, see the Education and Examination Regulations CEM and CME (<https://www.utwente.nl/en/cem/rules-and-regulations/>).
- 2) Students can consult the website www.doorstroommatrix.nl for more information on alignment with other Master's programmes. Students can also contact the Study Advisor or Student Counselling (<https://www.utwente.nl/en/ces/sacc/coaching-counselling/>).

ARTICLE 5. FINAL DEGREE

5.1 Examination of the programme

The B-CE programme has one final examination: the final Bachelor examination.

5.1.1 Requirements

- 1) Participation in the graduation semester (modules 11 and 12) is only allowed if the student has fully completed modules 1-8 (years B1 and B2).
- 2) The student will execute his assignment within in a Civil Engineering company/institution; this hands-on experience is the only way to link the obtained knowledge and skills with practice.
 - a. In exceptional cases, the student is allowed to do an internal assignment.
- 3) To finish the BSc Thesis Assignment and to obtain 15 EC the student has to prove that he has enough content knowledge, capability to work systematically and that he is able to report his work by fulfilling the following requirements:
 - a. The student has worked in the company/organization for at least 10 weeks;
 - b. The student has digitally handed in the report with his UT supervisor, his external supervisor and his second assessor;
 - c. A final examination session took place and the student is awarded a sufficient grade;
 - d. The student handed in a pdf version of his report via Bachelorassignment-ce@utwente.nl;
 - e. The student digitally filled out the evaluation forms and submitted these;
 - f. The student has digitally handed in the evaluation report for which the student was instructed during module 11.
- 4) The final grade for the BSc Thesis Assignment is determined based on the final report and the final presentation. The process of getting to the final report will also be taken into consideration in the students' grade, together with the students' functioning and attitude at the external company. An overview of the assessment criteria is presented in the [BSc-thesis manual](#).

5.1.2 Duration

- 1) The duration of the BSc-thesis assignment is 10 weeks.
- 2) The duration of the BSc-thesis assignment corresponds with the study-load of 15 EC.

5.1.3 Members of the graduation committee

The graduation committee assesses the students' report and are present at the final examination. The committee consists of the following people:

- 1) The UT supervisor is a member of the UT scientific staff who guides and assesses the student in terms of content.
- 2) The second assessor is a member of the scientific staff of a different domain than the domain the student is doing his assignment at.
- 3) The external supervisor is the person that guides the student within the external organization.

5.2 Degree

- 1) To show that the Bachelor's examination has been successfully completed, a degree certificate is awarded by the Examination Board. The degree certificate is signed by the persons stated in the regulations from the Examination Board (see appendix 3). The award takes place in public; in special circumstances the Examination Board can deviate from this.
- 2) The International Diploma Supplement (WHW art. 7.11, section 4) is added to the degree certificate. The objective of this supplement is to provide insight into the content of the completed programme for the purpose of international identification of the programme.
- 3) 'Extra courses' are stated when applicable, provided these were added to the study programme by request of the student with the approval of the Programme Director. The stated 'extra courses' make no part of the total programme. These courses should have been satisfactorily completed.

5.3 Cum Laude

- 1) The CE Programme determines the requirements for a Cum Laude distinction for the CE bachelor programme. The requirements comprise the following criteria:
 - a. If a student demonstrates exceptional ability during the bachelor examination, the words "Cum Laude" may be included on their degree certificate.
 - b. The following conditions must be met to qualify for this:
 - i. The weighted average of the grades for the study units of the bachelor examination, excluding the final grade for the bachelor thesis (module 12), is at least 8.0. Study units for which no assessments in the form of a grade are given or for which the student was exempted are disregarded for this calculation;
 - ii. The number of exemptions in the sense of OER2020 article 3.4 does not exceed one-third of the volume of the B-CE programme;
 - iii. The minimum grade for all Study units is 7.0;
 - iv. The final grade for the BSc-thesis project (module 12) is at least 8.0;
 - v. The bachelor's programme was completed within four years, unless special circumstances, for the assessment of the Examination Board, justify a longer delay. Special circumstances are, in any case, circumstances recognized as a condition for the granting of graduation support;
 - vi. "Cum Laude" shall not be awarded if the student has previously been found to have committed fraud or plagiarism during the completion of the pre-master or master programmes.
 - c. When there are special circumstances, the Examination Board has the right to let the student graduate with distinction if he does not fully meet requirements i to v, as defined under paragraph 1.

ARTICLE 6. STUDENT GUIDANCE

6.1 Student guidance

- 1) The Faculty Board is responsible for student guidance, including informing students of opportunities for academic endeavour within the programme and via extracurricular avenues.
- 2) A Study Advisor is available for all students.
- 3) The Study Advisor advises the student on study-related matters, as well as personal problems that may be affecting the student's studies.
- 4) If a student wishes to make use of his right to specific supervision or special facilities, he must contact the Study Advisor. The Study Advisor records the agreements made with the student.
- 5) The following applies to the eligibility for special facilities:
 - a. Demonstrable circumstances beyond the student's control or extenuating personal circumstances;
 - b. If necessary and when possible, dispensation from participation in exams or tests and/or the availability of special facilities for exams and tests. Such dispensation and additional opportunities for tests may only be granted by the Examination Board.

- 6) The Study Advisor is responsible, for the coordination and the quality of student counselling.
- 7) Each first-year student is assigned a mentor at the start of his Bachelor CE programme. The mentor is an employee of the faculty. In consultation with the Study Advisor, a student may be assigned another mentor in his first year. The mentor will provide guidance and advice to the student in his first year.
- 8) The Study Advisor signals and helps in finding solutions. Additionally, the Study Advisor provides - solicited or unsolicited - advice to the Examination Board, to the Programme Director and/or to individual lecturers/examiners. The Study Advisor also provides advice to students in relation to identified bottlenecks in the study load and study progress of individual students or groups of students.

6.2 Practical Realization of Counselling

- 1) Starting points for counselling of Bachelor students:
 - a. Aimed at all students during their entire programme;
 - b. Both reactive and pro-active (focused on career and study progress);
 - c. Pro-active;
 - i. Information meetings in B1 on B2, in B2 on B3, information on BSc-thesis assignment and the master programmes of Civil Engineering
 - ii. Invitation of first-year students by mentor (introduction conversation and during the first year based on the progress)
 - iii. Invitation of second-year students by Study Advisor (1 time)
 - iv. Invitation of students without progress by Study Advisor
 - v. Invitation by the Study Advisor following a report (e.g. by a teacher or by a fellow student)
- 2) The Study Advisor holds final responsibility for the student counselling within a programme.

APPENDIX 1. PRACTICAL INFORMATION

Contact information

Dean of the faculty	<i>Prof. dr. ir.</i> H.F.J.M. Koopman
Programme Director	<i>Dr. ir.</i> D.C.M. Augustijn
Programme Coordinator	M. Hamhuis
Study Advisor	<i>Ir.</i> J. Roos - Krabbenbos
Pre-Master coordinator	E.C.M. Luijkx
Bureau of Educational Affairs (BOZ)	BOZ-CE-CES@utwente.nl

Programme Committee (OLC)

The Programme Committee is responsible for monitoring and approving of the content as mentioned in WHW art.9.18, and quality of the programmes of Civil Engineering. In the Programme Committee both scientific staff and students are equally represented.

Chair: *Dr.ir.* M.J. Booij

Bureau of Educational Affairs (BOZ) acts as register for the Programme Committee.

Examination Board

The Examination Board makes objective and well-grounded decisions on whether the student meets the requirements in terms of his or her end level, and guards the standards for the end level itself.

Assessment is an important element and refers to all sorts of assessments: oral and written exams, papers, bachelor- and master theses and so on. The composition of the Examination Board for Civil Engineering can be found on the website of the CE/CEM/CME Examination Board

(<https://www.utwente.nl/en/cem/organization/examination-board/>).

Study Association

ConcepT is the study association for students of Civil Engineering, Civil Engineering and Management (CEM) or Construction Management and Engineering (CME). ConcepT supports students in their student life in three different categories: Professional, Educational and Social. Within these categories

a wide range of activities are organised. From Lunch lectures to study evenings and from a trip abroad to a gala. You can find more information on their website <https://www.concept.utwente.nl/home>

Information supply

- 1) The University of Twente uses an electronic learning environment (Canvas <http://canvas.utwente.nl>). Canvas is filled per course and contains detailed course information, assignments, etc.
- 2) The University of Twente uses a student information system (Osiris, <http://osiris.utwente.nl/student>). Osiris contains information on the programme and global course information. It is used for exam registration and for the registration of grades.

Facilities

- 1) For all communication connected to the programme as well as in all administrative procedures the electronic learning environment Canvas, internet or intranet will be used. In the organization of the CE programme the assumption is that students are in possession of a laptop. Engineering Technology students can use the offer of the Notebook Service Centre (NSC) for this purpose. Via their laptop, students can use the network of the university, which provides access to Canvas, the internet and intranet.
- 2) Use of computer and network facilities for other purposes than study may be regarded as misuse.
- 3) When they first enrol with the University of Twente, each student will be provided with an individual student email account.
- 4) The CE programme employs a Canvas site. Most electronic communications by the programme will be conveyed via this site. All students are requested to enrol for this programme site from the start of their study.
- 5) The university has lecture rooms and tutorial rooms, facilities for guided and independent self-study, a library and research facilities for educational purposes. The university offers limited facilities for free computer access.
- 6) The programme will provide accommodation to the study association for their activities.
- 7) Misuse of or damage to facilities of the University of Twente, or misconduct can, in addition to leading to claims for compensation, lead to a decision by the Dean to temporarily exclude the student from participation in the programme, tests, exams and examinations.
- 8) Books and journals relevant to CEM and CME can be found in the Central Library of the University of Twente (on-campus and online). Regulations concerning the quantity of books on loan, the lending period and fines are determined by the University Library.
- 9) If excursions, work visits, field work, etc. are a part of the programme (either compulsory or optional) that students are expected to take part in, the maximum contribution to the costs per student per excursion will be 10 Euro, for a maximum of 4 excursions per year. Any costs exceeding this will be for the account of the university. If the above activities take more than one day, the programme will take care of proper accommodation.

Teaching methods

- Lecture: a plenary meeting for students intended for the transfer of information.
- Tutorial: a meeting (for a subgroup of the population) intended to enable students to process the course matter.
- Colstruction: combination between a lecture and a tutorial.
- Assignment: the execution of a design or research assignment.
- Practical: a practical training in the sense of art. 7.13, section 2 item d of the WHW. This concerns the participation in an educational activity aimed at the acquisition of skills, such as making an assignment or a test design, carrying out tests and experiments, and taking part in field work or an excursion.
- Project: executing a design or research assignment as a team.

Timetables

- Within reason, the parts of the programme will be spread evenly over the year, ensuring that the study load (including assignments, projects, practical exercises, etc.) is spread evenly over the weeks of the programme.

- The timetable for each year consists of two semesters or four quarters. The last two weeks of each quarter are usually reserved for exams/resits and/or finishing assignments and/or projects. The teaching of the minor in year B3 covers two quarters. The study load of these subjects is distributed over an entire semester.

Quality assurance

Quality Assurance involves at least the following annual activities:

- 1) Surveys carried out at the end of each quarter
These surveys may be conducted among the participating students, at the end of each quarter.
- 2) Comprehensive evaluation of a component of the study programme
Upon the request of the Programme Committee, the Civil Engineering Evaluation Committee performs evaluation reports each quarter which are discussed in the Programme Committee meeting.
- 3) Panel discussion
Panel discussions are held after each module of every academic year (B1, B2. If desired a panel discussion could also be organised in B3) with students who participated in the programme in that module.
- 4) Data on performance and transition
Every year, the CES (Centre for Educational Support) produces standardized overviews of performance and transition.
- 5) Yearly analysis of the results of the NSE (national student survey) and the NAE (national alumni survey)
- 6) Performance appraisals
Results of activities stated in the first three items are brought to the attention of chair holders, to allow them to address these issues in their annual performance appraisals with all employees.
- 7) Educational Professionalization
Members of the scientific staff must have a University Teaching Qualification (Basis Kwalificatie Onderwijs) or given the opportunity to acquire/maintain this qualification.
- 8) Occasional activities
If necessary, in addition to the activities mentioned above, further assessments are carried out (such as assessment of facilities, how time is spent, exit evaluations, surveys among alumni, etc.)

Complaints

Complaints about the (organization of the) programme can be sent to the programme director, the programme coordinator, or the study association. Complaints about the (organization of) tests, exams and examinations can be sent to the Examination Board. An objection against a decision by the Examination Board or by an examiner or an appeal against a decision by the Faculty Board based on these Regulations must be submitted in writing within six weeks after the decision has been communicated to the student. The objection has to be submitted to the objections, appeals and complaints office via the Student Services desk.

APPENDIX 2. TRANSITION REGULATIONS

- 1) For students who started before 2012, the programme described in the Programme Specific Appendix Civil Engineering from 2012 applies, including any applicable transition regulations. The most recent transition regulations are listed in appendix B of the Programme Specific Appendix Civil Engineering 2019-2020 which can be found on the CE website (<https://www.utwente.nl/en/ce/rules-and-procedures/students-charter/archive-eer/>) .
- 2) For students who started between 2012 – 2019, the transition regulations to TOM2.0 apply. This means that students have the right to retake the module or the study unit in 2021-2022 under the same conditions that were in place for the module or study unit in 2019-2020.
- 3) Practicals will be valid permanently, if passed, even though they are part of a study unit:
 - a. Concrete practical in Module 1
 - b. Case Calculus 1A, Calculus 1B, Linear Algebra, Calculus 2
- 4) The Examination Board has decided that the rules for 2021-2022 will also apply to results of 2019-2020 if this favours the individual student. If a student failed a study unit in 2018-2019, he must request the Examination Board to retake just that study unit in 2021-2022 (and prolong the validity of the other results).
- 5) For students who already have permission to extend the validity of a result with one year applies that the passed study units (which are registered with a separate course code in 2021-2022) remain valid permanently.
- 6) Results of parts of a study unit expire after the academic year in case the study unit was not passed, except for the Final Project Report which is part of Study Unit 202000063.
- 7) Module 6 was an integrated module in 2020-2021. Students who failed one part of the module in 2020-2021 do not have to retake the entire module in 2021-2022, but only the failed part. The following rules apply:
 - a. Students who failed Environmental and social sustainability in 2020-2021 have to retake Study Unit 202100171 Environmental and Economic Sustainability only;
 - b. Students who failed Design strategy in 2020-2021 have to retake Study Unit 202100169 Design Strategy and Sustainable Civil Engineering Project only;
 - c. Students who failed Structural mechanics in 2020-2021 have to retake Study Unit 202100170 Structural Mechanics only;
 - d. Students who failed Social sustainability in 2020-2021 have to retake Study Unit 202100172 Social Sustainability only;
 - e. Students who failed Energy use in the built environment in 2020-2021 have to retake Study Unit 202100173 Energy only.
- 8) Results remain valid indefinitely in case a study unit is passed. Otherwise a study unit needs to be redone completely, except for practicals. **Results obtained in 2019-2020 printed bold in the table below**, will remain valid in 2021-2022. The validity of these study units is extended automatically.

	BLOCK 1A		BLOCK 1B		BLOCK 2A		BLOCK 2B	
B1	Module 1 - 20190076	EC	Module 2 - 201800152	EC	Module 3 - 201800429	EC	Module 4 - 201800507	EC
	Introduction to Civil Eng.		Water Management		Traffic and Transport		Designing Constructions	
	Mathematics A + B1	4	Calculus 1B	3	Traffic & Transport Theory	5	Professional Skills**	0
	Construction Materials	1	Fluid Mechanics 1	2	Traffic & Transport Project	7	Calculus 2	3
	Structural Mechanics 1	3	Water	2.5	Linear Algebra	3	Structural Mechanics 2	3
	Fundamentals of Civil Eng.	1	Policy Processes	1.5			Project Design of Constructions	4.5
	Matlab	0.5	Project Water Management* - Matlab* - Project*	5			Integral Test	4.5
	Civil Eng. Design Project	5.5	Measurements in Fluid Mechanics	1				
B2	Module 5 - 201700181	EC	Module 6 - 201800169	EC	Module 7 - 201900232	EC	Module 8 - 201400147	EC
	Safety and Risk in Delta's		Sustainable Civil Eng.	15	Area Development	15	Mod. & analysis of stoch. Proc.	
	Vector Calculus	2	Design, Engineering & Materials		Project Area Development	7	Tr. Flow Dynamics and Simulation	5
	Fluid Mechanics 2	2	Engineering for Sustainable Development		Practical GIS	2	Project Micro Simulation Tr. Flow	1.5
	Soil Mechanics	2	[module 6 must be passed completely!]		Spatial Policy & Law	2	Simulation and Heuristics	3
	Water Management	3			Stakeholder Analysis & Mngt	2	Project Simulation and Heuristics	3.5
	Project Water Safety* - Matlab* - Project*	6			Spatial Economics	2	Multidisciplinary Project	2
B3	Module 9	EC	Module 10	EC	Module 11 - 201500311	EC	Module 12 - 201500312	EC
	Minor		Minor		Preparation BSc-thesis Civil Engineering		BSc-Thesis Assignment Civil Eng.	15
	Minor***		Minor***		Production of Knowledge	7.5	BSc-Thesis	
					Thesis Proposal and Evaluation	7.5		

* Project in Module 2& 5: students can retake Matlab separately, if project is passed. Credits will be granted if both Matlab and Project are passed.

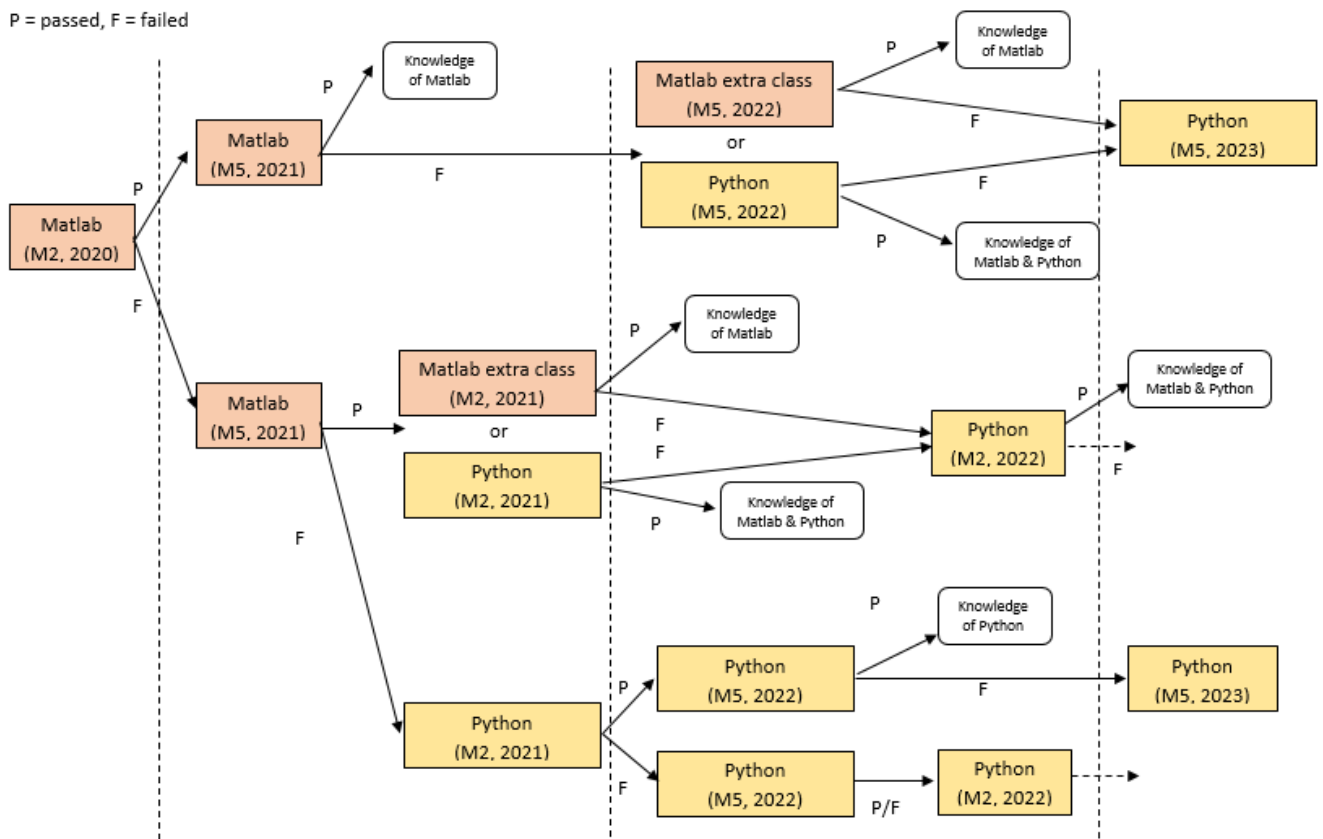
** Professional Skills (Module 4): sufficient (S)/insufficient (U). This study unit is conditional and must be sufficient.

*** Minor: validity of study units in minor modules: see rules for the minor of your choice (check course catalogue, module manual or coordinator of the minor). For CE-minors, see FAQ.

9) From Academic year 2021-2022, Matlab will be gradually replaced by Python within the BSc CE curriculum (i.e. module 2 and 5). Python will be implemented year-by-year, starting with Python in module 2 in 2021-2022 and in module 5 a year later, in 2022-2023. Every subsequent year an extra class of Matlab will be offered for students who failed Matlab in the previous year. In Academic year 2024-2025 also the pre-master and master will switch to Python. For Academic year 2021-2022, the following rules apply.

- a. **BSc CE students who start with their programme in 2021-2022:** Python in both module 2 and module 5 will be part of their exam programme.
- b. **BSc CE students who started their programme in 2020-2021 or before** follow(ed) Matlab in module 2 in 2020-2021 and module 5 in 2021-2022.
 - i. In case a student failed Matlab in module 2 in 2020-2021, but passes Matlab module 5 in 2021-2022, there is an opportunity to retake Matlab module 2 in 2021-2022. The student also might choose to take Python in module 2 instead of Matlab.
 - ii. In case a student passed Matlab in module 2 in 2020-2021, but fails Matlab in module 5 in 2021-2022, has the choice to retake Matlab module 5 in 2022-2023 or replace Matlab module 5 for Python module 5 in 2022-2023. If the student chooses to retake Matlab module 5 in 2022-2023, but doesn't pass this study unit, he is obliged to replace Matlab in module 5 by Python in 2023-2024.
 - iii. In case a student has not passed Matlab in module 2 in 2020-2021 and in module 5 in 2021-2022, he has to replace Matlab by Python; he has to take Python module 2 in 2021-2022 and Python module 5 in 2022-2023.

For the complete overview, see the figure below:



APPENDIX 3. REGULATIONS OF THE EXAMINATION BOARD

Regulations of the Examination Board

Next to these Education and Examination Regulations the Examination Board formulated rules of conduct and rules applicable to the exams and examinations of the Examination Board for Civil Engineering, as recommended by the Deans of the faculties.

- 1) These Rules and Regulations are applicable to:
 - a. The Bachelor program Civil Engineering
 - b. The Master Civil Engineering and Management
 - c. The Master Construction Management and Engineering
- 2) This document is available at the website of the Examination Board CE/CEM/CME (<https://www.utwente.nl/en/cem/organization/examination-board/>) and at the programmes' website (<https://www.utwente.nl/en/cem/rules-and-regulations/>).