

UNIVERSITY OF TWENTE.

Education and Examination Regulations

**Master Civil Engineering and
Management**

**Master Construction Management and
Engineering**

2021-2022

PREFACE

The Civil Engineering and Management and Construction Management and Engineering (CEM/CME) programmes have chosen to embed the Education and Examination Regulations within the programme-specific part of the Student Charter on the basis of Article 7.59 of the Dutch Higher Education and Research Act (WHW). This document presents the rules (rights and obligations) of the programme and of students with regard to education and examinations.

These rules apply to all students, but 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 all genders.

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 Master's programme in Civil Engineering and Management (<http://www.utwente.nl/cem>) and Construction Management and Engineering (<http://www.utwente.nl/cme>) and, for information about course content, to the Course Catalogue (<http://osiris.utwente.nl>), whenever necessary.

The Civil Engineering and Management and Construction Management and Engineering Education and Examination Regulations (CEM/CME EER) apply to all CEM/CME students. The programme is provided within the faculty of Engineering Technology (ET) at the University of Twente (UT) in Enschede.

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 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 CEM/CME 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 CEM/CME EER, a decision will be made by the Dean or by the Examination Board, 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 CEM/CME 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 have 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 Bureau of Educational Affairs (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 |
| 2.2 Additional requirements for students with a non-Dutch qualification | 7 |
| 2.3 Pre-Master programme | 7 |
| 2.4 Following master courses by non-master students..... | 7 |
| Article 3. Aims and Vision of the programme | 8 |
| 3.1 Aims and vision of the programme..... | 8 |
| 3.1.1 Academic competences CEM | 8 |
| 3.1.2 Academic competences CME | 10 |
| 3.2 Purpose of the master | 11 |
| 3.3 Organisation of the programme..... | 11 |
| 3.4 Language..... | 13 |
| 3.5 Study Abroad..... | 13 |
| Article 4. Education and programme | 13 |
| 4.1 Information supply | 13 |
| 4.2 Composition of the personal study programme..... | 13 |
| 4.3 Free MSc programme..... | 14 |
| 4.4 Double MSc programmes..... | 14 |
| 4.5 Regulation for including international courses in the Master's study programme..... | 14 |
| 4.6 Time periods, times and frequency | 14 |
| 4.7 Structure of practical exercises | 15 |
| 4.8 Internship..... | 15 |
| 4.9 Approval, publication and registration of results..... | 15 |
| 4.10 Duration of validity of assessments..... | 15 |
| 4.11 Right of inspection and discussion | 15 |
| 4.12 Quality assurance..... | 15 |
| Article 5. Final degree..... | 16 |
| 5.1 Examination of the programme | 16 |
| 5.1.1 Requirements | 16 |
| 5.1.2 Duration | 16 |
| 5.1.3 Members of the graduation committee..... | 17 |
| 5.2 Degree | 17 |

| | |
|--|----|
| 5.3 Cum Laude | 17 |
| Article 6. Student guidance..... | 18 |
| 6.1 Student guidance..... | 18 |
| 6.2 Studying with a disability | 18 |
| Article 7. Amendments, transitional arrangements, appeals and objections | 19 |
| 7.1 Conflicts with regulations..... | 19 |
| 7.2 Administrative errors..... | 19 |
| 7.3 Amendments to the regulations..... | 19 |
| 7.4 Transitional arrangements..... | 19 |
| 7.5 Assessment of the Education and Examination Regulations..... | 20 |
| 7.6 Appeals and objections | 20 |
| 7.7 Hardship clause..... | 20 |
| 7.8 Publication | 20 |
| 7.9 Date of effectiveness | 20 |
| Appendix 1. Practical Information..... | 21 |
| Contact information | 21 |
| Programme Committee (OLC)..... | 21 |
| Examination Board | 21 |
| Study Association | 21 |
| Facilities..... | 21 |
| Teaching methods | 22 |
| Appendix 2. Transition Regulations..... | 22 |
| Appendix 3. procedures for the final master examination | 23 |
| Appendix 4. Collaboration within 4TU | 23 |
| Appendix 5. 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 master's programme in 'Civil Engineering and Management (CEM)' and of the master's programme in 'Construction Management and Engineering (CME)', hereafter called: the programme CEM/CME.
- 2) The programme CEM/CME 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 CEM/CME 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 these Regulations should be interpreted as follows:

| | |
|---|---|
| Academic Year | The period beginning on 1 September and ending on 31 August of the following year. |
| Admission board | Board consisting of the Programme Director, the Programme coordinator, the track coordinators and the Pre-Master coordinator. The board is responsible for handling requests for admission by: <ol style="list-style-type: none">1) Students from Universities of Applied Sciences (HBO) or students with another Dutch Bachelor degree than the UT B-CE programme. In practice, the responsibility of this task of the admission board is with the Pre-Master coordinator.2) Students with a Bachelor's degree from universities abroad. In practice, the responsibility of this task of the admission board is with the Programme coordinator. |
| BOZ | Educational Affairs Office. |
| Canvas | University of Twente's digital learning environment. |
| CE | Civil Engineering department and programme of the Faculty of Engineering Technology. |
| Civil Engineering Evaluation Committee | Committee that performs evaluation reports each quarter. |
| 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. |
| Deficiency | Shortcomings in the previous education, as established by the Examination Board, that need to be corrected in order to allow the student to successfully complete the programme in 2 years. |
| 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 competences, 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). |
| Institution | University of Twente. |
| Institutional Board | The Executive Board of the University of Twente. |
| 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. |
| PCC (CPO) | Personal Circumstances Committee. A committee convened by the institutional administration to advise the institutional administration in individual cases regarding the validity, duration and severity of a specific student's extenuating personal circumstances. |
| Pre-Master programme | Programme to be completed by students before they can be admitted to the CEM or CME Master programme. |
| Programme Committee (OLC) | Programme Committee as referred to in Art. 9.18 of the WHW. |
| Programme Director | The Programme Director of the programmes CEM and CME. |
| Student | Anyone enrolled in 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. |
| Track coordinator | Member of the scientific staff responsible for providing advice on, and establishing the Master programme, including any deficiencies. |
| UT | University of Twente. |
| Website | The websites www.utwente.nl/cem or www.utwente.nl/cme , unless stated otherwise. |
| 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. |
| WHW | The Higher Education and Research Act (abbreviated to WHW in Dutch), Bulletin of Acts and Decrees 1992, 593, and its subsequent amendments. |

ARTICLE 2. ADMISSION

2.1 Requirements for previous education

- 1) 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 (<https://www.utwente.nl/en/education/master/how-to-apply/>).
- 2) Persons within the meaning of the above are admitted directly to the CEM and CME programmes. All other persons can be admitted when the admission board gives a positive advice on admission after application. The admission board will make a positive decision for students in possession of a Bachelor degree from a University of Applied Sciences (HBO) who have successfully passed the Pre-Master programme and for students who come from a different Bachelor programme within the UT or within the Netherlands, and who passed their Pre-Master programme (more information at the Pre-Master coordinator and on the Pre-Master policy on the website and in chapter 2.3)
- 3) There are two intake moments per year (September and February) when students can enter CEM/CME. These moments allow students to complete their programme in two years, without any delay caused by timetable issues.
- 4) Each year, the admission board, mandated by the Dean, defines for each UT Bachelor degree if it gives access to the CEM and CME programmes. Admission may be subject to further requirements or restrictions. Students from the Bachelor programmes CE and ME at the University of Twente are admitted into the programme unconditionally.
- 5) Students with a university education and a deficiency of no more than 15 EC can compensate their deficiencies in the first quartile of the Academic Year. Students who start in February can compensate their deficiencies in the third quartile of the Academic Year. After completion, the student can be admitted into the Master programme.
- 6) Students with a university education and a deficiency of more than 15 EC can only be admitted into the programme upon successful completion of the Pre-Master programme.

2.2 Additional requirements for students with a non-Dutch qualification

Students from abroad must show they have sufficient command of the English language <https://www.utwente.nl/en/education/master/admission-requirements/language/>. If a student does not meet the requirements he can't be admitted in the CEM/CME programme.

2.3 Pre-Master programme

For students who cannot be admitted directly, a Pre-Master programme is defined.

- Students with a degree from a University of Applied Sciences (HBO) in Civil Engineering (or comparable) can do a half year long Pre-Master programme of 30 EC. Please check the website for information.
- Students can only be admitted after completion of the full Pre-Master programme within no longer than a single year after starting the programme.
- Students that would like to enter the 4TU CME programme after completion of the Pre-Master programme, have to take the entire Pre-Master programme at 1 location.
- Some students who come from a different Bachelor programme within the UT or within the Netherlands have to do a tailor made Pre-Master programme in consultation with the Pre-Master coordinator.
- Students with a Dutch university education other than the Bachelor Civil Engineering can compensate their deficiencies (with a maximum of 15 EC) during their Master programme; however, the courses they take to compensate their deficiencies are extracurricular and are on top of the 120 EC of the Master programme.

2.4 Following master courses by non-master students

A student has the right to follow education and/or take examinations relating to the programme, provided he has satisfied the legal regulations in force. When someone has not (completely) met these requirements and at that moment still takes part in the education and/or examinations, this is regarded as illegitimate. When applicable, the relevant registered student data can be removed from the

administrative records and does not count for student progress, nor for student grants and loans. Additional conditions can be put in place for participation in the various education activities and examinations.

ARTICLE 3. AIMS AND VISION OF THE PROGRAMME

3.1 Aims and vision of the programme

The MSc programmes Civil Engineering and Management (CEM) and Construction Management and Engineering (CME) focus on both technical and non-technical aspects of planning, design, realization, and maintenance of civil engineering projects and systems. The programmes address the interests of all stakeholders involved in the broadest sense. For this reason, the research underlying the CEM and CME programmes has generated an interdisciplinary programme focusing on the integration of system knowledge, technology and management in order to produce innovative solutions tailored to societal needs. The design-oriented approach, the strong connection between scientific research and civil engineering practice and the emphasis on disciplinary integration, are distinctive features of these MSc programmes.

The programmes aim to provide academic knowledge, understanding, competencies and skills in the domain of Civil Engineering at a level which qualifies the graduate for:

- 1) Independent professional practice in the field of Civil Engineering;
- 2) Research in the field of Civil Engineering;
- 3) Enrolment in PhD programmes in the field of Civil Engineering; and
- 4) Enrolment in post-MSc design programmes (PDEng programmes) in the field of Civil Engineering.

3.1.1 Academic competences CEM

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

A Master of Science graduate of the CEM degree programme is / has

- 1) Competent in one or more scientific disciplines
 - a. The graduate has expert knowledge on at least one of the subareas of Civil Engineering and Management mentioned below, is able to apply this knowledge and is able to maintain and expand his or her expertise in the field of Civil Engineering and Management:
 - i. Construction Management and Engineering;
 - ii. Transport Engineering and Management;
 - iii. Water Engineering and Management.This includes necessary knowledge of related fields, such as Mathematics, Physics, Business Administration and Public Administration.
 - b. The graduate is able to combine appropriate theories from Business and/or Public Administration with technical knowledge and apply this in an integral way within civil engineering systems, projects or processes in one of the subareas above.
- 2) Competent in doing research
 - a. The graduate is able to identify gaps in scientific knowledge 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 by applying an appropriate research methodology, analysing and discussing the results and drawing conclusions from the results.
 - c. The graduate is able to contribute to acquiring scientific knowledge.
 - d. The graduate understands the potential benefits of research and is able to understand and incorporate the results of research into his or her own work.
 - e. The graduate is able to assess research within a subfield of Civil Engineering and Management on its scientific value.
- 3) Competent in designing
 - a. The graduate is able to:

- i. Contribute to a functional design of complex constructions; or
 - ii. Design management processes in the field of Civil Engineering; or
 - iii. Make a functional design of measures to intervene in Civil Engineering Systems.
 - b. This means that:
 - i. The graduate has creativity and synthetic skills with respect to design projects;
 - ii. The graduate is application-oriented towards civil engineering practice when designing;
 - iii. The graduate is able to find a balance between possible solutions of complex 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 to endorse his or her personal development and enhancing his or her expertise.
 - c. The graduate is able to judge the value of information for decision making, makes effective use of this information for decisions and is able to evaluate these decisions.
 - d. The graduate is able to judge if available tools and techniques are satisfactory for the problem at hand, is able to apply satisfactory tools and techniques and is able to invent his or her own tools, theories and techniques if these are not available.
 - e. The graduate is able to develop a model to describe/schematize reality, i.e. the graduate is able to describe qualitatively civil engineering processes and objects 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, and he or she is able to cross these whenever necessary.
- 5) Basic intellectual skills
 - a. The graduate is able to work independently.
 - b. The graduate is able to work systematically and methodically.
 - c. The graduate is able to analyse complex problems and complex information thoroughly and systematically, is aware of analogies between problems and is able to determine connections between different aspects of the problem or information.
 - d. The graduate is competent in numeracy and is aware of orders of magnitudes.
 - e. The graduate is able to reflect on the complete scope of one of the subfields of Civil Engineering and Management and is able to generate novel ideas in this subfield.
- 6) Competent in cooperating and communicating
 - a. The graduate is able to work effectively in the context of a multidisciplinary environment, is able to manage complex assignments and can act in different roles depending on the situation, i.e. can take responsibility as a member and/or as a project leader.
 - 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 scientific information;
 - ii. The graduate is skilled in properly documenting and presenting results of scientific and design work, including the underlying knowledge, choices and considerations, to colleagues and to a broader public;
 - iii. The graduate is competent in scientific 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 (scientific research of) at least one of the subfields in the scientific and societal context.
- b. The graduate is able to form an opinion or judgement and contribute to discussions about complex matters related to Civil Engineering and Management.
- c. The graduate knows that compromises are unavoidable and is able to deal with them effectively.
- d. The graduate is aware of the disadvantages for society of certain decisions and knows how to communicate them to the relevant parties (stakeholders).

3.1.2 Academic competences CME

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

A Master of Science graduate of the CME degree programme is / has

- 1) Competent in one or more scientific disciplines
 - a. The graduate has knowledge on the following sub-areas of Construction Management and Engineering, is an expert in at least one of them and is able to maintain and expand his expertise in the field of Construction Management and Engineering (for instance, by consulting relevant literature but also look for connections).
 - i. Project and Process management in the field of Construction Engineering (i.e. complex constructions, large-scale infrastructure, urban developments);
 - ii. Legal and Governance aspects in the field of Construction Engineering;
 - iii. Markets and organisations in the field of Construction Engineering;
 - iv. Innovations and Integral Design in Construction Engineering.
 - b. The graduate is able to combine management theory and technical knowledge. This ability covers the knowledge and application of technical process management and innovation regarding construction and engineering processes in the subareas above.
- 2) Competent in doing research
 - a. The graduate has the competence to acquire new scientific knowledge through research or systematic reflection.
 - b. The graduate understands the potential benefits of research and is able to understand and incorporate the results of research into his own work.
- 3) Competent in designing
 - a. The graduate is able to:
 - i. Contribute to a functional design of complex constructions; or
 - ii. Design management processes in the field of Construction Engineering.
 - b. This means that:
 - i. The graduate has creativity and synthetic skills with respect to design projects;
 - ii. The graduate is application-oriented towards the construction industry when designing constructions or management processes;
 - iii. The graduate is able to translate technological concepts and developments into appropriate process innovations for construction.
 - c. The graduate is able to find a balance between possible solutions of complex requirements, technical possibilities, genuine interests of the parties involved and justified value creation on scientific and operational levels.
- 4) A scientific approach
 - a. The graduate has the habit of reflecting upon his own work and continuously uses relevant information to improve his capabilities.
 - b. The graduate has the attitude to endorse his personal development and enhancing his expertise.
 - c. The graduate knows that models only approximate reality and is able to develop and use them adequately whenever this is beneficial.

- d. The graduate makes decisions based on calculated risks, costs, time, quality, stakeholders' participation, value creation, legislation and is able to evaluate these decisions.
 - e. The graduate's scientific attitude is not restricted to the boundaries of Construction Management and Engineering, and he is able to cross these where and whenever necessary.
- 5) Basic intellectual skills
- a. The graduate is able to work independently.
 - b. The graduate is able to work systematically and methodically.
 - c. The graduate is able to reflect on the complete scope of Construction Management and Engineering issues, to critically analyse and to generate novel ideas.
 - d. The graduate is able to invent his own tools, theories and techniques if these are not available.
- 6) Competent in cooperating and communicating
- a. The graduate is able to work effectively in the context of a multidisciplinary environment, is able to manage complex assignments and can act in different roles depending on the situation, i.e. can take up responsibility as a member and/or as a project leader.
 - b. The graduate knows the importance of oral and written communication, in particular in English, and can make effective use of these, this means that:
 - i. The graduate is skilled in properly documenting and presenting results of scientific and design work, including the underlying knowledge, choices and considerations, to colleagues and to a broader public;
 - ii. The graduate is competent in reasoning;
 - iii. 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 form an opinion or judgement and contribute to discussions about complex matters related to Construction Management and Engineering.
 - b. The graduate knows that compromises are unavoidable and is able to effectively deal with these.
 - c. The graduate is aware of the disadvantages for society of certain decisions and can communicate these to the relevant parties (stakeholders). He can take the purpose of the design and its context into consideration.

3.2 Purpose of the master

The programmes CEM and CME both aim to offer such knowledge, skills and understanding in the area of Civil Engineering, as well as the subareas Business Administration and Public Administration, that graduates are qualified to enter into an independent profession at the Master's of Science level.

3.3 Organisation of the programme

Both programmes are a full-time programme with a total study load of 120 EC (2 years). Both programmes consists at least of:

- Courses with a study workload of 85 ECs (consisting of courses of 5 EC each)
- The course 'Preparation MSc-Thesis' of 5 ECs
- A final Master Thesis of 30 EC

The student has to take at least 30 EC in profile courses. In addition, the student chooses profile electives, for which courses can be selected either within the specialisation or within CEM/CME. The student is free to choose 15 EC as free electives. In consultation with a teacher, students are allowed to select and specify a Capita Selecta as free elective. The composition, size and assessment type is determined separately for each individual case.

Below, the outline of a regular CEM/CME Master programme is given.

| | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 |
|--------|-----------------|-----------------|-----------------|-----------------|
| Year 1 | Courses (15 EC) | Courses (15 EC) | Courses (15 EC) | Courses (15 EC) |

| | | | |
|--------|-----------------|----------------------------------|-----------------------|
| Year 2 | Courses (15 EC) | Courses (10 EC) | Master thesis (30 EC) |
| | | Master thesis preparation (5 EC) | |

The programmes will be published on the websites:

- <http://www.utwente.nl/cem>
- <http://www.utwente.nl/cme>

The timetables of both programmes can be found on:

- <https://rooster.utwente.nl>

Course information can be accessed via:

- <https://osiris.utwente.nl/student/OnderwijsCatalogus.do>

Explanation: In each study period - called a quartile – the student selects several courses out of those that are offered. The regular study load for a quartile is 15 EC in a period of 10 (or 11) weeks, in which an EC equals a study load of about 28 hours.

The CEM programme offers four specialisations (or tracks). The specializations are subdivided in profiles. Students specialize in one of the following directions by selecting a profile:

- Construction Management and Engineering with profiles:
 - Markets & Organization of Construction
 - Digital Technologies in Construction
- Transport Engineering and Management with profiles:
 - Integrated Urban Transport
 - Transport and Logistics
- Water Engineering and Management with profiles:
 - Integrated Water Management
 - River and Coastal Engineering
- Integrated Civil Engineering Systems with profiles:
 - Civil Engineering Structures
 - Modelling and Forecasting
 - Sustainability
 - Smart Cities

The CME programme is the same as the specialisation Construction Management and Engineering. Students can select either the profile 'Markets & Organization of Construction' or 'Digital Technologies in Constructions'.

Detailed information on the curriculum, profile courses and suggested profile electives for each profile can be found on the programmes website.

Students that enter the programme select their specialisation and profile prior to starting the programme. They can consult the track coordinator of the corresponding specialisation. The entire programme of the student must comply with the final qualifications of the Master programme as specified in this EER CEM/CME. The track coordinator is mandated by the Examination Board to approve an individual programme. When there is any doubt whether an individual programme meets the final qualifications of the Master programme, the track coordinator can redirect the student to the Examination Board for approval of his/her programme.

3.4 Language

The language of instruction of both Master programmes is English. Reports must be written in the language of instruction. In special cases (assessed by the Examination Board) exceptions to this rule are possible.

3.5 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 following a number of regular courses at a foreign university (preferably not in the first semester of the studies). For the extra costs made for this purpose, there are subsidy regulations for which can be applied only once during the programme. See the subsidy regulations: <http://intoffice.utwente.nl/en/financial/>

ARTICLE 4. EDUCATION AND PROGRAMME

4.1 Information supply

- 1) The University of Twente uses an electronic learning environment (Canvas <http://canvas.utwente.nl>). Each course has a Canvas page containing detailed course information, study materials, 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 general course information. It is used for exam registration and for the registration of grades.

4.2 Composition of the personal study programme

- 1) The student is responsible for setting up his/her own Master programme. The track coordinator (MSc-track coordinator) is available for consultation, e.g. in case of specific questions or exceptions.
- 2) At the start of the Master, the student can plan a meeting with the track coordinator for discussing their study programme. The track coordinator can give advice on the content and suitability of courses within a profile, and checks whether the intended programme satisfies the conditions of at least one of the profiles. If there is any doubt, the track coordinator directs the student to the Examination Board. The intended programme is not processed formally at this moment by the Educational Affairs Office (BOZ).
- 3) During the Master, the student is free to change one or more courses of the programme, provided that it still matches the requirements of one of the defined profiles.
- 4) Around the start of the Preparation MSc-thesis course (i.e. 3 months prior to the start of the course preparation MSc thesis), the final Master programme will be checked by the Educational Affairs Office. In case the profile requirements are satisfied, the profile will be administered in the student's examination programme in Osiris.

4.3 Free MSc programme

- 1) As an exception, approval can be granted to a master's examination on the basis of a programme of courses composed by the student (a free programme).
- 2) The Examination Board determines whether the free programme is actually built upon education units which are provided by an institution of higher education, whether the study effort is sufficient, and whether that programme has the required level and cohesion.
- 3) The 'required level' mentioned in 4.3.2 relates to both the programme of courses and to the Master Thesis project.
- 4) When the Examination Board does not approve the proposal that has been submitted, it must give clear reasons for its decision.

4.4 Double MSc programmes

Students who would like to follow two master programmes simultaneously, must comply with the intended learning outcomes of both programmes and be admitted to both programmes. The programme specific rules for CEM/CME are described in the Rules and Regulations of the Examination Board and are to be found on the website of the examination board CE/CEM/CME (<https://www.utwente.nl/en/cem/organization/examination-board/>) .

4.5 Regulation for including international courses in the Master's study programme

Students are free to choose 15 EC of courses as free electives. This can be any course at the University of Twente or at a Dutch or recognized (foreign) partner university. If a student exceeds the maximum of 15 EC for free electives, e.g. for an exchange semester, permission of the Examination Board must be requested.

4.6 Time periods, times and frequency

- 1) On the websites <http://www.utwente.nl/cem> and <http://www.utwente.nl/cme> an overview of all courses offered in the MSc programme CEM and CME can be found (curriculum). Each course is 5 EC except for the MSc-thesis which is 30 EC.
- 2) For each part of an examination of a course a description, the manner of testing, the composition of the final grade (including weighting factors), and the structure and exact schedule of the programme must be announced on the dedicated Canvas site at the beginning of the course.
- 3) Four weeks prior to the start of each quartile a timetable is published on the following website <https://rooster.utwente.nl/> in which the dates of education activities are stated.
- 4) The following applies in addition to/ as deviation of these rules:
 - a. For each course there is a second opportunity in the same Academic year to pass the examination. In case of written exams, the second opportunity is often scheduled in the subsequent quartile.
 - b. If a student receives more than one result for the exam in the same course, the highest grade will apply. This also applies for the results of tests and components of tests within the same Academic year and for the results of tests and components of tests that remain valid after the Academic year in which they were obtained.
 - i. Exceptions on this rule are possible and need to be communicated prior to the start of the first exam to the students.
 - c. The student has the right to refer to recent model test questions or trial tests, or representative older tests and the related answers and the standard of the related assessment.
 - d. For each examination other than written exams: the examiner assigned by the Examination Board for that part of the examination, will, prior to the start of teaching the course, establish a time for examination of that course, or a part of that course. This might mean that (part of) an examination can only be taken once in an Academic year.
- 5) With respect to the order of attendance of courses, the programme uses the following types of prior knowledge:
 - a. Desired prior knowledge: The student is deemed to be familiar with the conceptual framework and the course matter or a comparable course.

- b. Necessary prior knowledge: The student is deemed to have passed a particular course or a comparable course. The teacher assumes that the student is familiar with the contents of the preceding course. The student might have trouble finishing the course successfully if he does not have the necessary prior knowledge.
- c. Compulsory prior knowledge: The student must have passed a particular course or a comparable course (assessed by the Examination Board) before he is allowed to attend the course.

4.7 Structure of practical exercises

Practicals can be part of a course. Generally, a student has one attempt per study year to fulfil such a practical if it is part of the examination of a course. However, when a student is unable to do the practical exercise outside his control, the Examination Board will attempt to give the student another opportunity to do the practical.

4.8 Internship

Not available for CEM/CME students.

4.9 Approval, publication and registration of results

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

4.10 Duration of validity of assessments

The validity of the results of an exam that has been passed is unlimited. The validity of an exam result can only be restricted if the tested knowledge, insight or skills are proven to be out of date. A course that was not passed, has to be repeated completely in the next academic year. Results of parts of a course expire at the end of the academic year. Exceptions are listed in the assessment plan of the course.

4.11 Right of inspection and discussion

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

4.12 Quality assurance

Quality Assurance involves carrying out the following activities on an annual basis:

- 1) Digital questionnaires (inquiries) at the end of every quartile (bi-annually)
 - a. These inquiries are taken by the participating students at the end of every quartile for every course.
- 2) Comprehensive course evaluation
 - a. 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) Yearly analysis of the results of the NSE (National Student Survey) and the NAE (National Alumni Survey).
- 4) Performance Reviews
 - a. Results of activities stated in the first two items are brought to the attention of chair holders, to allow them to address these issues in their annual performance appraisals with all employees.
- 5) Educational professionalization
 - a. Members of the scientific staff must have a (university) teaching qualification (Basis Kwalificatie Onderwijs) or given the opportunity to acquire/maintain this qualification.
- 6) Occasional activities
 - a. 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.).

ARTICLE 5. FINAL DEGREE

5.1 Examination of the programme

- 1) The programmes CEM and CME both require the final MSc-thesis examination.
- 2) The MSc thesis project will be assessed by a graduation committee.

5.1.1 Requirements

- 1) The graduation period comprises of a total of 35 EC and consists of the course Preparation MSc-thesis (5 EC) and the MSc-thesis (30 EC).
- 2) The student can start with the Preparation MSc-thesis course when all other parts of the Master programme have been completed except for a maximum of two courses (10 EC). The student can only start the MSc-thesis after completion of the preparatory course and if no more than 5 EC are missing from the required 85 EC of coursework. The graduation lecturer may, after consultation with the Study Advisor, deviate from these restrictions if it causes considerable delay for the student.
- 3) The purpose of the course Preparation MSc-Thesis is to prepare the student for the realization of the MSc-thesis. The preparation phase results in at least a detailed proposal for the MSc-thesis.
- 4) The preparation phase consists of optional courses and/or independent literature study in relation to the MSc-thesis.
- 5) The MSc-thesis must be executed within the field of one of the specialisations of the programme, either within a certain research group or at an external organization.
- 6) The student is the only author of the MSc-thesis.
- 7) The MSc-thesis is written in English. In consultation with the graduation lecturer or at the request of the external organization, a comprehensive summary and/or report appendices may be written in Dutch. In all cases, the main text of the report must be in English.
- 8) The MSc-thesis report can be drawn up as a scientific article if, at the moment of assessment, the student is the only author of the (draft) article. Contributions in writing of the graduation lecturer and/or the graduation supervisor(s) to the MSc-thesis report are not allowed.
- 9) By default the MSc-thesis is done individually. However, joint graduation is possible. In that case, independent completion of the project is defined as:
 - a. The student studies on an individual basis: each student has his own (sub)project with a separate research question and responsibility.
 - b. The graduation results in an individual report and individual presentation.
 - c. If an (external) client is interested in a joint report only, the supply of this report is the responsibility of the students.

5.1.2 Duration

- 1) The planned end date of the MSc-thesis assignment is determined during the preparation MSc-thesis. At the beginning of the graduation period there need to be agreements on at least the nature of the assignment, the planned start date, the manner of guidance and the date on which the final report must be handed in.
- 2) The duration of the MSc-thesis preparation corresponds with the applicable study-load of 5 EC. The duration of the MSc-thesis corresponds with the applicable study-load of 30 EC.
- 3) All agreements (as mentioned above) are formalized in writing.
- 4) The graduation lecturer and the graduation supervisor(s) share the responsibility for explicit monitoring of progress during the graduation period.
- 5) If the graduation report is handed in (preferably by the agreed date) and is approved, the graduation committee issues a statement that can be used by the student to apply for the final examination (for details: see the [MSc-thesis manual](#) for both programmes). If the report is not approved, the graduation committee indicates clearly what additions and/or changes are required. A new date is set by which the revised report must be handed in. If necessary, this procedure is repeated.
- 6) If the graduation committee agrees that the work done by the student is insufficient, they may decide in consultation with the MSc-thesis coordinator of the department, that the student has to do an alternative assignment. The same applies if the student fails to hand in a thesis or hands in far too late.

5.1.3 Members of the graduation committee

- 1) The student starts their Preparation MSc-thesis by requesting a conversation with the MSc-thesis coordinator of the relevant specialisation.
- 2) The MSc-thesis coordinator of the relevant specialisation selects a graduation lecturer. The graduation lecturer puts together a graduation committee. If necessary, he or she also arranges a daily graduation supervisor. When the MSc-thesis assignment is carried out externally, the graduation lecturer also makes sure that there is a person in charge of the guidance of the graduate at the external location (external supervisor).
- 3) The graduation committee consists of:
 - a. The graduation lecturer;
 - b. The daily graduation supervisor, or a second staff member of the UT if the graduation lecturer is also the daily graduation supervisor;
 - c. Possible external member for an advisory role in the assessment.
- 4) The graduation committee is responsible for the final assessment. The external supervisor has an advisory role only.
- 5) The graduation lecturer is a professor, an associate professor (UHD) or a lecturer who is a member of the scientific staff of CE assigned by the Examination Board. The graduation supervisor is a staff member, postdoc or PhD student of the UT who acts as the daily supervisor for the graduation assignment if this is not done by the graduation lecturer. If the graduation supervisor is a PhD student, the research proposal of the PhD student must have been approved by the Civil Engineering Disciplinary Council.
- 6) Professors from other programmes can be assigned by the Examination Board as a graduation lecturer in Civil Engineering. The Examination Board will decide in each individual case whether they honour the request, based on, among other things, the relationship between the graduation assignment and the professor's area of expertise.
- 7) If required by the nature of the project, the graduation lecturer can extend the committee with eligible experts.
- 8) At the request of the responsible graduation lecturer, the Examination Board can make an exception to the requirements for the composition of the graduation committee.

5.2 Degree

- 1) To show that the Master's examination has been successfully completed, a degree certificate is awarded by the Examination Board. The degree certificate is signed by the persons stated in the regulations from the Examination Board. The award ceremony 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 examination 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' aren't part of the total programme. These courses should have been satisfactorily completed.

5.3 Cum Laude

- 1) The CEM/CME Programme determines the requirements for a Cum Laude distinction for the CEM and CME Master's programmes. The requirements comprise the following criteria:
 - a. If a student demonstrates exceptional ability during the master 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 parts of the final examination, excluding the final grade for the master thesis, is at least 8.0. Parts 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 minimum grade for all parts of the examination is 7.0;
 - iii. The number of exemptions does not exceed one-third of the volume of the programme (the Examination Board can grant students exemption from one

or more complete courses at their request. To this end, the student will demonstrate that they have completed a component of a similar content, size and level of a university or higher professional education programme or have, as a result of work and/or professional experience, sufficient knowledge and skills regarding the study unit concerned).

- iv. The final grade for the master thesis is at least 8.0;
 - v. The master's programme was completed within 2.5 years, unless special circumstances, to be assessed by 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.
- 2) When there are special circumstances, the Examination Board has the right to let the student graduate with distinction if he or she does not fully meet requirements under i to vi
 - 3) If the nominal duration of the programme has been exceeded by more than 6 months, the graduation lecturer or the Programme Director can make a reasoned request to the Examination Board to award the predicate 'Cum Laude'. The predicate 'Cum Laude' is granted when all members of the Examination Board express their consent.

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 supervises the student and advises him 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 entitlement to 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 track coordinator can be consulted by Master students as well. The track coordinator is a staff member of the department of the chosen specialization of the student. The track coordinator can be consulted for programme or content related questions.

6.2 Studying with a disability

- 1) A functional impairment is a physical, sensory or other functional disorder that might limit the student's academic progress.
- 2) The Study Advisor and the student will discuss the most effective facilities for the student as referred to in Article 2 of the Equal Treatment of Disabled and Chronically Ill People Act (WGB h/cz).
- 3) Facilities are to be aimed at removing specific barriers in the teaching programme or when it comes to taking exams. When necessary, these facilities may be related to access to infrastructure (buildings, classrooms and furnishings) and study materials, adjustments to the form of assessment, alternative learning pathways or a customized study plan. The facilities are to ensure the student's chances of achieving the final learning outcomes.
- 4) Based on the discussion referred to in paragraph 2, the student is to submit a request for facilities to the Dean, preferably three months before the student is to participate in classes, exams and practical exercises for which the facilities are required.

- 5) The request is to be submitted along with supporting documentation that is reasonably necessary for assessing the request (such as a letter from a doctor or psychologist registered in the BIG register, or in the case of dyslexia from a healthcare psychologist or special education needs expert, also registered in the BIG register).
- 6) The faculty Dean will decide on the admissibility of the request as referred to in paragraph 4 and will inform the student and the Study Advisor of the decision within 20 working days after receipt of the request, or sooner as the urgency of the request dictates.
- 7) The Study Advisor will ensure that the relevant parties are informed in good time about the facilities granted to a student with a functional impairment.
- 8) Should the faculty Dean reject the request in full or in part, the Dean is to inform the student of the justification for the rejection and the possibilities for lodging an objection and an appeal. A written objection must be submitted in writing within six weeks after the decision has been communicated to the student. The objection is to be submitted to the objections, appeals and complaints office via the Student Services desk.
- 9) Should extra facilities be granted, the period of validity will also be indicated. The applicant and the Study Advisor will evaluate the facilities before the end of this period. During this evaluation, parties will discuss the effectiveness of the facilities provided and whether they should be continued.
- 10) If a student is dyslexic, he will be granted a maximum of 15 extra minutes for each hour that a test or exam is officially scheduled.

ARTICLE 7. AMENDMENTS, TRANSITIONAL ARRANGEMENTS, APPEALS AND OBJECTIONS

7.1 Conflicts with regulations

If other additional regulations and/or provisions pertaining to teaching and/or examinations conflict with these Education and Examination Regulations, the present Education and Examination Regulations take precedence.

7.2 Administrative errors

If, following the publication of a result, a grade list, or an overview of a student's progress, an apparent error is discovered, the discoverer, be it the university or the student, is required to make this known to the other party immediately upon finding the error and to cooperate with rectification of the error.

7.3 Amendments to the regulations

- 1) Substantive amendments to these Education and Examination Regulations are determined by the Faculty Board in a separate decision.
- 2) In principle, amendments to these regulations do not apply to the current academic year. Substantive amendments to these regulations may apply to the current academic year if the interests of the student are not prejudiced within reasonable bounds, or in situations of force majeure.
- 3) Amendments to these regulations have no effect on earlier decisions by the Examination Board.

7.4 Transitional arrangements

- 1) In the case of amendment of these Education and Examination Regulations, the Faculty Board may decide on a transitional arrangement.
- 2) The transitional arrangement will be published on the degree programme's website.
- 3) Basic principles for the transitional arrangement if a curriculum is changed:
 - a. Changes to a curriculum are published before the start of the academic year in which they are to apply;
 - b. No guarantee can be given that all programme courses that were part of the curriculum when a student enrolled in a programme will continue to be part of the curriculum.
- 4) The transitional arrangement will always include:

- a. An explanation of which courses (if any) in the changed programme replace courses of the old programme;
 - b. An indication that if a study component that does not involve a practical is dropped from a programme, then students are to have at least two opportunities in the following year to take a written or oral exam or to undergo another form of assessment.
 - c. An indication that if a study component with practical exercises is dropped from the programme and there is no opportunity in the subsequent academic year to complete the practical exercise, then at least one study unit will be designated that may be completed as a substitute for the study unit that has been dropped;
 - d. The period of validity of the transitional arrangement.
- 5) The transitional arrangement must be approved by the Examination Board with regard to the provisions of paragraph 4.
 - 6) In exceptional cases and not to the student's detriment, the Examination Board may deviate from the prescribed number of opportunities to resit exams related to courses that have been dropped from the curriculum.

7.5 Assessment of the Education and Examination Regulations

- 1) The Faculty Board is responsible for the regular assessment of the Education and Examination Regulations and is to take into account the time involved for the student for the purposes of monitoring and adjusting the study load, if necessary.
- 2) In accordance with article 9.18 of the WHW, parts on the Education and Examination Regulations need the approval of the Programme Committee. On other parts the Programme Committee can advise.

7.6 Appeals and objections

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 is to be submitted to the objections, appeals and complaints office via the Student Services desk.

7.7 Hardship clause

The Examination Board may allow derogation from the provisions of these Regulations in the event of demonstrably compelling unreasonableness or unfairness.

7.8 Publication

The Education and Examination Regulations and the Examination Board's rules and guidelines are to be published on the degree programme's website.

7.9 Date of effectiveness

The date of effectiveness of these regulations is 1 September 2021.

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> M.J.B. Duyvestijn |
| 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

The Educational Affairs Office (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 end level, and guards the standards for the end level itself.

Assessment is an important subject in this. Assessments refer 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

ConceptT is the study association for students of Civil Engineering (CE), Civil Engineering and Management (CEM) or Construction Management and Engineering (CME). ConceptT 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>.

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 programmes CEM and CME 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) When they first enrol with the University of Twente, each student will be provided with an individual student email account.
- 3) The programmes CEM and CME employ 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.
- 4) 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.
- 5) The programme will provide accommodation to the study association for their activities.
- 6) 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.
- 7) Books and journals relevant to CEM and CME can be found online via the website of the Central Library of the University of Twente.
- 8) 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 (also known as self-study).
- 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.

APPENDIX 2. TRANSITION REGULATIONS

- 1) For students that started between 2010 and 2017, the programmes described in the SC-CEM/CME from 2010 through SC-CEM/CME 2017 apply, including any applicable transition regulations. The most recent transition regulations are to be found in appendix 2 of the EER CEM/CME 2019-2020 which can be found on the CEM and CME website.
- 2) In the event of changes to the rules for the composition of an examination that consists of multiple results, the calculation of the final result/ the minimum grade for successful completion of a unit/the validity of the resit for the units will be determined based on the rules of the examination of the year in which the result was obtained.
- 3) In the event of a significant change to an existing course (more than 50% of the course matter), a student who has at least once taken part in an exam for the relevant course prior to the change, is entitled to two scheduled opportunities to resit the exam in its old form in the subsequent academic year. In such cases, the student must inform the teacher at the beginning of the course to discuss how the course can be completed. In the event of such a change in the course matter, the students must be informed of this fact and this regulation.
- 4) If a student's programme, due to terminations and transition regulations, consists of a total number of ECs that does not exactly match the formal size of the programmes and programme components mentioned in this programme-specific appendix, the final programme should still have the size of 120 EC.
- 5) The requirements for the composition of the programme apply for students enrolled for the Master programme as from 01-07-2015. For students that enrolled before that date, the examination programme must at least meet the requirements of the education and examination regulations of 2014 or the requirements of the present EER.

APPENDIX 3. PROCEDURES FOR THE FINAL MASTER EXAMINATION

- 1) The full procedure is to be found in the [MSc-thesis manual](#). The most important points are listed below:
 - a. The student has to make sure that an application for the final examination (colloquium) is requested with the Educational Affairs Office (BOZ) at least three weeks prior to the planned graduation date;
 - b. The student has to make sure that at least three weeks prior to the graduation date, the grades for all parts of the examination (except the MSc-thesis) are handed in to the Educational Affairs Office (BOZ);
 - c. The student has to make sure that at least one week prior to the graduation date, the graduation report is handed in to the Educational Affairs Office (BOZ);
 - d. The Educational Affairs Office (BOZ) prepares the certificate and makes it available to the graduation lecturer prior to the final examination;
 - e. Applications for the final examination in the second half of August must be submitted to the Educational Affairs Office (BOZ) five weeks prior to the date of the final examination. All the periods mentioned exclude the holiday periods on the academic calendar.

APPENDIX 4. COLLABORATION WITHIN 4TU

- 1) The Master's degree programme in Construction Management and Engineering is a 4TU MSc programme. The programme is offered at TU/e (Eindhoven University of Technology), TUD (Delft University of Technology) and UT (University of Twente). The programmes have similar learning objectives. The courses and specializations at each university are different. Each program has a different CROHO number (programme registration according to the WHW).
- 2) After a student is formally enrolled in the Master's program in Construction Management and Engineering at one of the 3 universities he will also obtain a secondary enrolment at the 2 other universities.
- 3) Students are allowed to choose elective subjects from the list of elective/specialization and core courses from each of the 3 programmes, after consultation with the track-coordinator from the home university and after approval by the Examination Board of the home university.

APPENDIX 5. 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 programme Civil Engineering
 - b. The Master programme Civil Engineering and Management
 - c. The Master programme 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/>) .