TEACHING AND EXAMINATION REGULATIONS (TER)

IN ACCORDANCE WITH ARTICLE 7.13 OF THE [DUTCH] HIGHER EDUCATION AND RESEARCH ACT [WHW]

MASTER DEGREE PROGRAMME
CIVIL ENGINEERING

ANNEX

TU Delft

2022
2023

THESE TEACHING AND EXAMINATION REGULATIONS APPLY TO ALL STUDENTS OF THE COHORT 2022-2023

TABLE OF CONTENTS TER

TABLE OF CONTENTS ANNEX MS CIE

TER

IN ACCORDANCE WITH ARTICLE 7.13 OF THE [DUTCH] HIGHER EDUCATION AND RESEARCH ACT [WHW]

MASTER DEGREE PROGRAMME
CIVIL ENGINEERING

2022
2023

TU Delft

THESE TEACHING AND EXAMINATION REGULATIONS
APPLY TO ALL STUDENTS OF THE COHORT 2022-2023

Paragraph 1
General

Article 1 Applicability of the regulations[1]

1. These regulations including the programme specific annexes, apply to the teaching and the examinations of:
   - the Master degree programme in Civil Engineering (CIE)
   - the Master degree programme in Environmental Engineering (ENV)
   - the Master degree programme in Applied Earth Sciences (AES)
   - the Interfaculty 4TU Master degree programme Construction Management and Engineering (CME)
   - the Interfaculty Master degree programme Transport, Infrastructure and Logistics (TIL)

hereinafter referred to as 'the programme' or 'programmes'.
These regulations also apply to the bridging programmes of the aforementioned programme(s).

2. For AES, CIE and ENV, the programme is provided under the responsibility of the faculty of Civil Engineering and Geosciences of Delft University of Technology, hereinafter referred to as the 'faculty'.
   For CME, the programme is provided under the responsibility of the faculty of Civil Engineering and Geosciences, the faculty of Architecture & the Built Environment, and the faculty of Technology, Policy & Management.
   For TIL, The programme is provided under the responsibility of the faculty of Civil Engineering and Geosciences, the faculty of Mechanical, Maritime and Materials Engineering, and the faculty of Technology, Policy & Management

Article 2 Concepts

A list of relevant websites can be found in the appendix to this article.

1. The following concepts apply in this Regulation:

a.	academic year:	the period from 1 September until and including 31 August of the following calendar year;
b.	Act:	the Higher Education and Scientific Research Act (in Dutch, the WHW), Dutch Bulletin of Acts, Orders and Decrees 593 and any amendments since its introduction;
c.	annex (former: IR);	the appendix which forms part of these Teaching and Examination Regulations;
d.	Board of Examiners:	tthe programme's Board of Examiners, which has been installed in accordance with Article 7.12 of the Act;
e.	bridging programme:	a deficiency rectifying programme aimed at moving up to a Master's degree programme, while enrolled in a Bachelor's degree programme, but without obtaining a Bachelor's degree, as stipulated in Article 7.30e or Article 7.57i of the Act;
f.	cohort:	the group of students who have registered for a degree programme for the first time in a given academic year;
g.	course (or: ' subject'):	a teaching unit within the programme, as stipulated in Article 7.3, Sections 2 and 3 of the Act; a course can consist of a number of components;
h.	credit:	a European Credit (EC) awarded in line with the European Credit Transfer System (ECTS); one credit equals a study load of 28 hours;
i.	(component) partial examination:	an assessment of the knowledge, insight and skills of a student in relation to a component within a course, as well as the marking of that assessment by at least one examiner, appointed for that purpose by the Board of Examiners;
j.	dean:	Dean of the faculties mentioned in Article 1, Section 2 or Dean that represents the Deans of the faculties mentioned in Article 1, Section 2;
k.	degree:	an academic title conferred by universities and colleges as an indication of the completion of a course of study, or as an honorary recognition of achievement;

1. *This Teaching and Examination Regulation (TER) is established per academic year and is valid as of the first day of the relevant academic year. This TER replaces all previous versions of the TER. The Study Guide is an integral part of the TER and its Annex.*

CONTENT

l.	degree audit:	the evaluation, in which, in accordance with Article 7.10 of the Act, the Board of Examiners determines whether all examinations in the courses of the degree programme have been successfully completed;
m.	disability:	aall conditions which are (at least for the specified period) chronic or lasting in nature and which form a structural limitation for the student in receiving education and/or sitting examinations or taking part in practicals;
n.	education registration system:	the current education registration system is Osiris;
o.	examination:	an assessment of the knowledge, insight and skills of a student in relation to a course, as well as the marking of that assessment by at least one examiner, appointed for that purpose by the Board of Examiners;
p.	examiner:	the individual who, in line with Article 7.12, Subsection 3 of the Act, has been appointed by the Board of Examiners to set the examinations;
q.	institute:	Delft University of Technology;
r.	interim examination:	the assessment of the examinee's knowledge, insight and skills and the results of the assessment as referred to in Section 7.10, first subsection of the WHW;
s.	learning management platform:	the current learning management platform is Brightspace;
t.	module:	a constituent part of the Master degree programme Applied Earth Sciences, Civil Engineering, and Environmental Engineering, consisting of one unit or several connected and coordinated units. Modules with their own code count as a "course" in the sense of these regulations;
u.	practical exercise:	course or component of a course aimed at the acquisition of particular skills. The following can be understood as practical exercises: • writing a thesis, • conducting a project or experimental design, • carrying out a project or a design/research assignment, • completing an internship, • participating in field work or an excursion, • conducting tests and experiments, or • participating in other educational activities that are considered essential and that are aimed at acquiring particular skills.
v.	programme:	the Master degree courses as stipulated in Article 7.3a, Section 1 in the Act;
w.	programme duration:	the duration starting from the enrolment of the student, up and to including the last examination;
x.	student:	a person enrolled at Delft University of Technology in order to receive education and take the examinations and the degree audit in the degree programme;
y.	study guide:	the digital guide for the degree programme containing specific information on the courses included in the degree programme (www.studiegids.tudelft.nl);
z.	teaching period:	half a semester;
aa.	track	major, as stipulated in Article 7.13, Section 2, Subsection b of the Act;
aa.	virtual learning environment:	the electronic system designed for the exchanging of teaching information (here: Brightspace);
bb.	(module) unit or theme:	part of a module. Units or themes with a separate code count as a "course" in the sense of these regulations;
cc.	working day:	Monday through Friday, with the exception of recognised holidays and the collective closure days.

2. The other concepts in these regulations are used in the sense in which they appear in the Act.

3. In these regulations, the term 'examination' also refers to 'interim examination', with the exception of Article 19, Section 1, first two complete sentences.

4. A written or oral examination may also be taken digitally and/or online. In these regulations the term examination is also taken to mean a digital and/or online examination, unless stated otherwise in these regulations.

Paragraph 2
Admission and prior education

Article 3a Admission to the Master's degree programme

1. Individuals holding one of the following degrees have access to the education of the Master's degree programme in Applied Earth Sciences (under a) or Civil Engineering (under b) or Environmental Engineering (under c) or Construction Management and Engineering (under d) or Transport, Infrastructure and Logistics (under e) on the condition that all of the stated requirements have been met.

a. Applied Earth Sciences:

- Bachelor degree "Technische Aardwetenschappen" or "Applied Earth Sciences" from Delft University of Technology;
- Bachelor degree Aerospace Engineering from Delft University of Technology;
- Bachelor degree Civil Engineering from Delft University of Technology;
- Bachelor degree Electrical Engineering from Delft University of Technology;
- Bachelor degree "Maritieme Techniek" from Delft University of Technology;
- Bachelor degree "Technische Natuurkunde" from Delft University of Technology;
- Bachelor degree "Werktuigbouwkunde" from Delft University of Technology.

b. Civil Engineering:

- Bachelor degree Civil Engineering from Delft University of Technology or Bachelor degree Civil Engineering from University of Twente.

c. Environmental Engineering:

- Bachelor degree Civil Engineering from Delft University of Technology or University of Twente;
- Bachelor degree Applied Physics from Delft University of Technology;
- Bachelor degree Aerospace Engineering from Delft University of Technology;
- Bachelor degree "Maritieme Techniek" from Delft University of Technology;
- Bachelor degree "Werktuigbouwkunde" from Delft University of Technolgy;
- Bachelor degree Nanobiology from Delft University of Technology.

d. Construction Management and Engineering:

- Bachelor degree Architecture, Urbanism and Building Sciences ("Bouwkunde") from Delft University of Technology or from Eindhoven University of Technology;
- Bachelor degree Civil Engineering (Civiele Techniek) from Delft University of Technology or University of Twente;
- Bachelor degree Systems Engineering, Policy Analysis and Management (Technische Bestuurskunde) from Delft University of Technology;
- Bachelor degree Industrial Engineering & Management from University of Twente;
- Bachelor degree Industrial Engineering from Eindhoven University of Technology;
- Bachelor degree in Sustainable Innovation from Eindhoven University of Technology.

e. Transport, Infrastructure and Logistics:

- Bachelor degree "Civiele Techniek" from Delft University of Technology or University of Twente
- Bachelor degree Electrical Engineering from Delft University of Technology, Eindhoven University of Technology or University of Twente;
- Bachelor degree "Luchtvaart- en Ruimtevaarttechniek" from Delft University of Technology;
- Bachelor degree "Maritieme Techniek" from Delft University of Technology;
- Bachelor degree "Technische Bestuurskunde" from Delft University of Technology;
- Bachelor degree "Technische Informatica" from Delft University of Technology, Eindhoven University of Technology or University of Twente;
- Bachelor degree "Technische Natuurkunde" from Delft University of Technology, Eindhoven University of Technology, University of Twente or University of Groningen;
- Bachelor degree "Technische Wiskunde" from Delft University of Technology, Eindhoven University of Technology, University of Twente or University of Groningen;

CONTENT

- Bachelor degree “Werktuigbouwkunde” from Delft University of Technology, Eindhoven University of Technology or University of Twente;
- Bachelor degree “Econometrie en Operationele Research” at Erasmus University Rotterdam, University of Amsterdam, VU Amsterdam, University of Groningen, Tilburg University or Maastricht University;
- Bachelor degree “Technische Bedrijfskunde” at Eindhoven University of Technology, University of Twente or University of Groningen.

Depending on the Bachelor degree, certain synchronisation courses are mandatory, according to the Annex of the programme in question.

2. Students who do not possess the degree mentioned in Section 1 are required to obtain proof of admission to the programme from the Dean, who will seek the advice of the admission committee on this matter.

a. *Other university Bachelor degree (not including those listed in Section 1)*

The following applies to this category: successful completion of the stated bridging programme for admission to the Master degree programme:

Civil Engineering and Applied Earth Sciences and Environmental Engineering:

- University Bachelor degree. Bridging programme to be followed: to be specified by the Director of Studies upon application

Construction Management and Engineering:

- University Bachelor degree: students who do not possess any of the degrees mentioned in Section 1 may be eligible for, and should therefore seek advice on, a Bridging minor or custom bridging programme, as stipulated in the Annex for the MSc CME.

Transport, Infrastructure and Logistics:

A university Bachelor degree at Delft University of Technology or equivalent in:

- “Bouwkunde” (also at Eindhoven University of Technology);
- “Industrieel Ontwerpen” (also at University of Twente);

or a university Bachelor degree in:

- “Landschapsarchitectuur en Ruimtelijke Planning” at Wageningen University,
- “Technische Planologie” at University of Groningen,
- “Sociale Geografie en Planologie” at University of Amsterdam, Utrecht University or University of Groningen gives admission to the Master’s degree programme, in which a convergence programme has to be completed.

This convergence programme will be part of the Master’s degree programme in Transport, Infrastructure and Logistics and consists of convergence courses stated in the Annex to the TER.

Individuals who have received foreign education prior to the earned Bachelor’s degree, must meet the requirements of satisfactory linguistic mastery of Dutch, as stated in the appendix, before one can participate in a Dutch-language bridging programme.

The foregoing requirement does not apply to pre-switchers who were registered in the academic year 2021-2022, with uninterrupted enrolment for the academic years 2022-2023, 2023-2024 and 2024-2025

b. *Higher professional education degree*

The following applies to this category:
Successful completion of the stated bridging programme for admission to the Master degree programme and, if applicable, the language requirement.

Civil Engineering and Applied Earth Sciences and Environmental Engineering:
Bridging programme to be followed: Transitional programme for students with a Dutch higher vocational institute Bachelor degree ("HBO") as stipulated in the programme-specific Annex.

Construction Management Engineering:
Bridging programme to be followed: Transitional programme for students with a Dutch higher vocational institute Bachelor degree ("HBO") as stipulated in the Annex.

Transport, Infrastructure and Logistics:
A relevant higher professional education degree gives admission to the programme only after successful completion of the bridging programme stated in the Annex to this TER and, if applicable, the language requirement.

Individuals who have received foreign education prior to the earned higher professional education degree, must meet the requirements of satisfactory linguistic mastery of Dutch, as stated in the appendix, before one can participate in a Dutch-language bridging programme.

The foregoing requirement does not apply to pre-switchers who were registered in the academic year 2021-2022, with uninterrupted enrolment for the academic years 2022-2023, 2023-2024 and 2024-2025

c. *Foreign degree*

This category is subject to the general selection requirements of Delft University of Technology with regard to prior foreign education, based on a Cumulative Grade Point Average of at least 75% of the maximum number of points that could be earned, included in the table of countries (see website) and meeting the requirements for satisfactory linguistic mastery of English, as stated in the appendix to Article 3.

3. For admission in accordance with section 2, the following additional condition applies:
Access to the education of the Master degree programme in Applied Earth Sciences, Civil Engineering, Environmental Engineering, Construction Management and Engineering or Transport, Infrastructure and Logistics is open to individuals who have demonstrated to the admissions committee that they possess knowledge, insight and skills at the level of the Bachelor degree mentioned in sections 1 and 2.

Article 3b Completion of bridging programme prior to the degree programme

1. A student who is enrolled in a bridging programme with the aim of being admitted to the Master degree programme at TU Delft must complete this bridging programme within two academic years. Deviations from the bridging programme are not allowed.

2. After the programme duration of the bridging programme, the enrolment of the student will be cancelled. Under exceptional circumstances the student can submit an well-founded request for an extension of the course duration for a period of at most twelve months. The Board of Examiners can decide to grand extension of the programme duration when a student is experiencing or has experiences a study delay due to circumstances that are beyond the student's control.

Article 4 Not applicable

Not applicable.

Paragraph 3
Content and composition of the programme

Article 5 Goal of the programme

1. The programme is intended to educate students to earn a Master of Science degree in Applied Earth Sciences (AES), Civil Engineering (CE), Environmental Engineering (ENV), Construction Management and Engineering (CME) or Transport, Infrastructure and Logistics (TIL) respectively, providing them with such a level of knowledge, insight and skills in the area of the above mentioned programmes, that graduates can fulfil positions on the labour market at the Master's level.

2. The Intended Learning Outcomes of the different programmes are outlined in the programme-specific Annexes to these Regulations.

Article 6 Track

1. The Master degree programme in Civil Engineering has the following tracks, with the stated content in the annex to this TER:
   - Construction Materials (CM)
   - Structural Engineering (SE)
   - Hydraulic Engineering (HE)
   - Hydraulic and Offshore Structures (HOS)
   - Geotechnical Engineering (GE)
   - Traffic and Transport Engineering (TTE)

2. The Master degree programme in Applied Earth Sciences has the following tracks, with the stated content in the annex to this TER:
   - Applied Earth Sciences
   - Applied Geophysics

3. The Master Degree Programme Environmental Engineering has the following tracks, with the stated content in the annex to this TER:
   - Water Resources Engineering (WRE)
   - Atmospheric Environmental Engineering (AEE)
   - Resource and Waste Engineering (R&WE)

4. The Master Degree Programme Construction Management and Engineering has no tracks.

5. The Master Degree Programme Transport, Infrastructure and Logistics has no tracks.

Article 7 Composition of the programme and degree audits

1. The programme includes the Master's degree audit, with a study load of 120 credits.

2. Following approval from the two Boards of Examiners concerned, a student may take an individual double degree programme in which two Master's programmes are combined simultaneously to create a programme of at least 180 credits. Upon completion the student is awarded two Master's diplomas. The student must earn at least 60 unique credits for each Master's degree programme.

3. A course that was part of the Bachelor's degree programme that qualified a student for admission to the Master's degree programme may not be included in the Master's degree programme. If a compulsory component has already been completed in the aforementioned Bachelor's degree programme, the Board of Examiners will designate an alternative course. If an elective course of the degree programme has already been completed in the aforementioned Bachelor's degree programme, the student will select an alternative elective course.

CONTENT

4. The Master's degree audit is concluded with a final test or assignment. This test or assignment demonstrates that the student possesses and is able to apply the knowledge, insight and skills acquired in the degree programme.

5. The degree programme and its courses are described in the Annex, including the study load, number of contact hours and form of examination of each course, as well as the programming of the examination and the language.

6. The actual design of the educational programme is elaborated in greater detail in the study guide.

Article 8 Form of the programme

The degree programmes are offered exclusively on a full-time basis.

Article 9 Language

The education is in English, and the examinations are administered in English.

Article 10 Honours Programme

1. Based on the criteria referred to in the Honours Programme, students will be selected and admitted to the Honours Programme by the Honours Programme Committee established by the Director of Studies.

2. The Honours Programme comprises at least 20 credits.

   a. At least five credits must be completed in the institution-wide component of the Master's Honours Programme and
   b. At least 15 credits must be completed in the faculty component of the Master's Honours Programme, the composition of which (including its content and options) is described in the Guidelines Honours Programme CEG and/or Annex.

3. All students selected for participation in the Honours Programme must submit their options for approval to the Honours Coordinator.

4. The Board of Examiners will be responsible for assessing whether all the requirements of the Honours Programme have been met.

5. Any student who has successfully completed the Honours Programme will be awarded a certificate signed by the chair of the Board of Examiners and the Rector Magnificus

Article 11 (Compulsory) participation in the programme

1. All students are expected to participate actively in the programme for which they are registered.

2. If necessary, there will be an obligation to participate in practical exercises, with a view to admission to the related examination. The Board of Examiners may grant an exemption from this obligation, with or without imposing a substitute requirement.

3. Any supplementary obligations are described by component in the course description in the study guide.

Article 12 Programme evaluation

1. The Director of Studies is responsible for the evaluation of the education.

2. The manner in which the education in the programme is evaluated is documented in the faculty's Quality Assurance Manual, which is submitted to the Faculty Student Council and the Board of Studies.

3. The Director of Studies informs the Board of Studies concerning the outcomes of the evaluation, the intended adjustments based on these outcomes and the effects of the actual adjustments.

Paragraph 4
Registration for courses and examinations

Article 12a Cancelled

Not applicabble.

Article 13 Registration for written examinations

1. Registration to participate in a written examination, including a written examination that is taken online, remotely from the university, is compulsory and is done by entering the requested data into the education registration system (Osiris) no later than 14 calendar days before the examination. Students receive examination tickets by email as confirmation of their registration.

2. Students may submit a request to register for an examination after the deadline mentioned in subsection 1 has passed but no later than 6 calendar days before the examination in question, in Osiris by being placed on a waiting list. The request will be honoured providing that places are available in the room or rooms where the examination is scheduled to take place. The student will receive an exam ticket by email as confirmation.

3. In the event of circumstances beyond a student's control resulting in the student being unable to register for an examination, the Board of Examiners may nevertheless permit the student to participate in the examination.

4. Students who have not registered for the examination and are therefore not included on the list of examinees can report on the day of the examination to the invigilator beginning 15 minutes before the start of the examination until the actual start. They will be admitted to the examination room, in the order that they reported to the invigilator, 30 minutes after the start of the examination, if sufficient places are available. The loss of 30 minutes of examination time cannot be compensated. Students who have been granted late access to the examination will be added to the list of examinees. The student participates in the examination subject to the validation of entitlement to participate in the examination.

5. In the situation described in the previous section, if it is found that a student was not entitled to participate in the examination, the examination work will be deemed invalid, it will not be marked and it will not count towards a result. The student may subsequently submit an appeal to the Board of Examiners, accompanied by reasons, requesting that the examination work that has been deemed invalid be declared valid and to have it assessed. The Board of Examiners will approve the request only in case of extenuating circumstances.

6. Sections 2 and 4 of this article do not apply to a written examination that is taken online, remotely from the university.

7. If unforeseen circumstances or measures make it necessary to change the form or manner of taking the examination, the Board of Examiners may determine a different registration period in favour of the student.

CONTENT

Article 14 Registration for other examinations

1. Registration for participation in an examination other than a written examination is compulsory, and is possible up to 14 calendar days before the examination take place in the manner that is stated in the study guide for the relevant examination.
   If unforeseen circumstances or measures make it necessary to change the form or manner of taking the examination, the provisions stated in the study guide apply in full unless the Dean decides to deviate from the manner or term of registration prescribed in the study guide.

2. In special cases, the Board of Examiners may deviate from the registration term stated in Section 1, but only in favour of the student.

3. Students who have not registered on time will not be allowed to participate in the examination. The Board of Examiners can nevertheless admit a student to the examination, but only in case of special circumstances.

4. In the event of unauthorised participation in an examination, the Board of Examiners may declare the result invalid.

Article 15 Withdrawal from examinations

1. Students can withdraw from an examination through the education registration system (Osiris) up to three calendar days before the examination.

2. Any student who has withdrawn from an examination should re-register on a subsequent occasion, in accordance with the provisions of Articles 13 and 14.

Paragraph 5
Examinations

Article 16 Form of the examinations and the manner of testing in general

1. Examinations (oral, written or otherwise) are taken in the manner described in the study guide. In the event of unforeseen circumstances or measures, the Board of Examiners may determine that the manner prescribed may be deviated from. If an examination is taken using online proctoring, this takes place in accordance with the TU Delft Online Proctored Examination Regulation.

2. The study guide contains a description of the moments at which and the numbers of times that examinations can be taken, along with their frequency, without prejudice to the provisions of these regulations concerning written and oral examinations, as described in Article 17.

3. A student may participate in an examination for a course no more than twice in one academic year, with the understanding that registration for an examination without timely withdrawal counts as participation.

4. In special cases, the Board of Examiners may deviate from the provisions of the above sections 1 to 3 in favour of the student.

5. Well before a written examination, the examiner will give the students the opportunity to familiarise themselves with representative sample questions and the criteria by which they will be assessed. The teacher or examiner will provide accompanying guidelines for the way in which the sample questions are answered.

CONTENT

Article 17 Times and number of examinations

1. Two opportunities to take written examinations will be offered each academic year. The previous provision applies equally to examinations other than written examinations, unless this cannot be reasonably demanded of the programme. The times in which the examinations can be taken are:
   - at the end of the teaching period in which the course is taught, and
   - in the fifth week or at the end of the next teaching period or during the summer resit period according to the TU Delft academic calendar.

2. An annual timetable is issued detailing when examinations may be taken, and it is published before the start of the relevant teaching period.

3. Contrary to the provisions in Section 1, the opportunity to take the examination for a course that is not taught in a certain academic year must be given at least once in that year.

4. Contrary to the provisions of section 1, two opportunities to sit an examination will be offered for discontinued courses in the academic year following the year in which the course was last taught.

5. In exceptional cases, the Board of Examiners may permit more than two opportunities in a year for certain examinations.

Article 18 Oral examinations

1. For oral examinations, no more than one student shall be tested at a time, unless determined otherwise by the Board of Examiners.

2. Oral examinations shall not be public, unless the Board of Examiners has decided otherwise. In deviation from this first clause, a final presentation is given publicly except in special cases in which the Board of Examiners has decided otherwise, whether or not at the request of the student.

3. The oral examination is administered by at least two examiners. In the event of unforeseen circumstances or measures, the Board of Examiners may allow the oral examination to be administered by a single examiner, provided the student consents to an audio and/or video recording with sound of the oral examination.

Article 19 Determination and announcement of results

1. The examiner determines the result of a written examination as quickly as possible but by no later than 15 working days after the examination. The results of written interim examinations shall be announced no later than five working days before the next written interim examination.

2. The examiner determines the result of an oral examination as quickly as possible but no later than 15 working days after it is administered.

3. The examiner records the results of the assessment of a practical exercise as quickly as possible, but no later than 15 working days after the completion of the practical exercise at the designated time. In the education registration system (Osiris), the result will be dated on the date of completion of the practical exercise. With regard to a series of practical exercises in which the knowledge acquired in a previous practical exercise is important to the subsequent practical exercise, the result of the previous practical exercise shall be announced before the subsequent practical exercise. If this is not possible, the examiner shall schedule a timely discussion of the previous practical exercise.

4. The examiner is responsible for the registration and publication of the results in the education registration system (Osiris), with observance of the student's privacy. When the result of an examination is announced, the student is informed about the right of perusal as stipulated in Article 20 as well as about the possibility of appealing to the Examinations Appeals Board.

5. Contrary to the previous provisions, results for examinations administered in the last regular examination period, as well as for resits from the first year of the BSc taken during the resit period, shall be determined, registered and published within five working days of the week following the week in which the examination was taken.

6. If special circumstances prevent the examiner from registering the results on time, the examiner will report this to the Board of Examiners, accompanied by reasons, and notify the students and student administration as quickly as possible.

CONTENT

Article 20 Right to inspect the results

1. Upon request, students will have the right to inspect their assessed work during a period of at least 20 working days after the announcement of the results of a written examination or the assessment of a practical exercise. During the inspection of the assessed work, it is not permitted to copy the underlying examination questions in any way. Students intending to appeal against the assessment of their work will be issued with a copy of the assessed work.

2. During the period mentioned in Section 1, all students who have participated in the examination can become acquainted with the questions and assignments of the relevant examination, as well as with the standards that form the basis of the assessment.

3. The examiner can determine that the inspection or cognizance intended in Sections 1 and 2 will take place at a pre-established place and at a pre-established time.

4. Students proving that they were unable to appear at such an established place and time because of circumstances outside of their control will be offered another possibility, if possible within the period mentioned in Section 1. The place and times mentioned in the first sentence will be made known in good time.

Article 21 Discussion of the results of examinations

1. Students who have taken a written examination or who have received the assessment of a practical exercise can ask the relevant examiner for a discussion of the results during a period of 20 working days after the announcement of the results. The discussion will take place within a reasonable period, at a place and time to be determined by the examiner.

2. At the request of the student or at the initiative of the examiner, a discussion justifying the assessment will take place between the examiner and the student as soon as possible after the announcement of the result of an oral examination. During the discussion of the assessed work it is not permitted to copy the underlying examination questions in any way.

3. If a collective discussion is organised by the examiner, students may submit requests as referred to in section 1 only if they have been present at the collective discussion and have motivated their requests, or if they were unable to be present at the collective discussion because of circumstances outside their control.

4. The Board of Examiners may allow deviation from the provisions in Sections 2 and 3.

Article 22 Period of validity for examinations

1. The period of validity of the results of an examination is indefinite. The Dean can restrict the period of validity of a successfully completed examination only if the knowledge or insight that was examined has become outdated or if the skills that were examined have become outdated.

2. In cases involving a limited period of validity based on the first section, the period of validity shall be extended at least by the duration of the acknowledged delay in studies, based on the TU Delft Profiling Fund Scheme.

3. In individual cases involving special circumstances, the Board of Examiners can extend periods of validity that have been limited based on the first section or further extend periods of validity that have been extended based on the second section.

4. If a course consists of interim examinations, the period of validity of the interim examination for which no credits are assigned shall be restricted to a time period stated in the study guide.

Article 23 Exemption from an examination or obligation to participate in a practical exercise

1. After having obtained recommendations from the relevant examiner, the Board of Examiners may grant exemptions to students:
   a. who have successfully completed an examination or degree audit in a system of higher education within or outside the Netherlands that corresponds to the examination for which the exemption has been requested in terms of content and level, or

CONTENT

b. who demonstrate that they possess sufficient knowledge and skills that have been acquired outside the system of higher education.

2. After having obtained recommendations from the relevant examiner, the Board of Examiners may grant exemption from the requirement to participate in a practical exercise with a view to admission to the related examination, possibly subject to alternative requirements.

Article 24a Periods and frequency of degree audits

In principle, the opportunity to take the Master's degree audit will be offered once each month. The dates for the meetings of the Board of Examiners shall be published before the beginning of the academic year.

Article 24b Invalidation of examinations

The Board of Examiners is authorised to declare invalid an examination or part thereof if a proper assessment of the knowledge, insight and skills of the student has not proved reasonably possible based on the examination or the part thereof. The Board of Examiners may draw up further rules for this.

Paragraph 6
Studying with a disability

Article 25 Adjustments to the benefit of students with disabilities or chronic illnesses

1. Upon a written and substantiated request to that effect, students with disabilities or chronic illnesses may be eligible for adjustments in teaching and examinations. These adjustments are coordinated to the situations of the students as much as possible, but they may not alter the quality or level of difficulty of a course or the study programme. Facilities to be provided may include modifications to the form or duration of examinations and/or practical exercises to suit individual situations or the provision of practical aids.

2. Requests as mentioned in Section 1 must be accompanied by a recent statement from a physician or psychologist or, in cases involving dyslexia, from a testing office registered with BIG, NIP or NVO. If possible, this statement should include an estimate of the extent to which the condition is impeding the student's academic progress.

3. Decisions concerning requests for adjustments relating to educational facilities are taken by the Dean or by the Director of Studies on the Dean's behalf. Decisions concerning adjustments relating to examinations are taken by the Board of Examiners or by the academic counsellor on behalf of the Board of Examiners.

4. Adjustments to examinations can involve the following or other matters:
   - form (e.g. replacing a written test with an oral test or vice versa, testing the required material in the form of interim examinations or granting exemptions to the attendance requirement);
   - timing (e.g. additional time for an examination, wider spreading of examinations across the examination period, granting exemptions to admission requirements or extending the period within which a component must be completed);
   - aids permitted during testing (e.g. English-Dutch dictionaries for students with dyslexia);
   - location (taking the examination in a separate, low-stimulus space).

5. Adjustments in educational facilities could include:
   - providing modified furniture in teaching and examination spaces;
   - providing special equipment (e.g. magnification or Braille equipment for students with visual impairments and blindness or loop systems and individual equipment for students with hearing impairments and deafness);
   - providing more accessible course material;
   - providing special computer facilities (e.g. speech-recognition or speech-synthesising software);
   - providing a rest area.

Paragraph 7

Study support and (binding) recommendation on the continuation of studies

Article 26 Study support and Monitoring of student progress

1. The Dean is responsible for providing individual study supervision to students registered for the degree programme, partly for their orientation towards potential study options within and outside the degree programme. The Dean will also ensure that effective support and supervision is provided to students in making choices related to their studies.

2. The examination and study programme applying to each student is documented in the education registration system (Osiris).

3. The Student Administration is responsible for ensuring that all students are able to review and check their results in the education registration system (Osiris).

Article 27 Not applicable

Not applicable.

Paragraph 8

Final provisions

Article 28 Conflicts with the regulations

In the case of conflict between provisions in the study guide or other document concerning the relevant teaching and examination education and study programme and these regulations, the provisions of these regulations shall take precedence.

Article 29 Amendments to the regulations

1. Amendments to these regulations are adopted separately by the Dean.

2. Amendments that are applicable to the current academic year will be made only if they would not reasonably damage the interests of students.

3. Amendments to these regulations may not lead to disadvantageous changes to any decisions that have been made with regard to individual students.

4. In the event of unforeseen circumstances or measures, the Dean may decide to deviate from these regulations, including the actual form of the education and any compulsory attendance requirements. This also means that the provisions in the study guide may be deviated from.

CONTENT

Article 30 Transitional regulations

1. If the composition of the degree programme undergoes substantive changes, transitional measures will be established and published through the Dean. Transitional measures can be found in the programme-specific Annexes to the TER.

2. These transitional measures shall include at least the following:
   a. an arrangement regarding exemptions that may be obtained based on examinations that have already been passed;
   b. the period during which the transitional arrangement shall be valid.

3. Students shall follow the degree programme as it applied or applies during the first academic year of their enrolment, unless components of the programme are no longer offered. In such cases, students must transfer according to the applicable transitional measures. Deviations require the approval of the Board of Examiners. Before submitting a request to this end, the student must have first obtained recommendations from an academic counsellor.

4. If a course within a degree programme is cancelled, four additional opportunities for taking the examination in this course shall be offered after it has been taught for the last time: the examination at the end of the teaching of the course, a resit in the same academic year and two resits in the following academic year.

Article 31 Announcement

1. The Dean is responsible for ensuring a suitable announcement of these regulations and any amendments to them.

2. In any case, the Teaching and Examination Regulations are to be posted on the programme's website.

Article 32 Entry into force

These regulations shall enter into force on **1 September 2022.**

Adopted by the Dean of the faculty on 30 June 2022.

Appendix & Addendum TER MSc

APPENDIX to Article 2 - relevant websites

Student portal with links to relevant regulations, e.g.

- Student Charter,
- privacy statement online proctoring,
- Code of Ethics,
- Online Proctored Examination Regulation etc.

» https://www.tudelft.nl/en/student

Rules & Regulations of the Board of Examiners

» https://www.tudelft.nl/studenten/faculteiten/citg-studentenportal/onderwijs/onderwijsinformatie/educational-rules-and-regulations/

Board of Examiners general website

» https://www.tudelft.nl/studenten/faculteiten/citg-studentenportal/organisatie/board-of-examiners-ceg/

Wet op het hoger onderwijs en wetenschappelijk onderzoek (WHW)

» https://wetten.overheid.nl/BWBR0005682/2019-02-01

Examination Appeals Board

» https://www.tudelft.nl/en/student/legal-position/central-complaints-desk-for-students/objections-and-appeals

Studying with a disability

» https://www.tudelft.nl/en/student/counselling/studying-with-a-disability

CONTENT

APPENDIX to Article 3 TER (for Master's degree programmes)

Language level Dutch-language bridging programmes for individuals holding another Bachelor's degree university education (b) or a higher professional education degree (c).

The Dutch language:

By successfully passing a Dutch examination at the following level:

- GCE A Level
- Algemeen Secundair Onderwijs (ASO)
- European Baccalaureate (EB)
- Suriname VWO
- International baccalaureate (IB)
- Baccalaureate Series S

By successfully completing:

- The complete Dutch course from the TU Delft Centre for Languages and Academic Skills; or
- The NT2-II certificate and the professional language course of the TU Delft Centre for Languages and Academic Skills.

Language level for individuals holding a higher professional education degree (c)

The following candidates are exempted from the English language test requirement:

- Students with a Bachelor's degree from a Dutch university
- Students with a VWO diploma or VWO English certificate
- Students with an HBO (University of Applied Sciences) degree from a degree programme taught entirely in English
- Students who hold the nationality of one of the following countries: USA, UK, Ireland, Australia, New Zealand or Canada

Sufficient competence in the English language can be demonstrated by passing one of the following tests:

- TOEFL iBT (Test of English as a Foreign Language internet-Based Test) with an overall band score of at least 90
- IELTS (academic version) with an overall band score of at least 6.5
- Cambridge Assessment English:
  - C1 Advanced (Certificate of Advanced English) with an overall score of at least 176.
  - C2 Proficiency (Certificate of Proficiency in English) with an overall score of at least 180.

If a bridging programme needs to be completed before a candidate can be admitted to a Master's programme, the certificate should be obtained before the start of the bridging programme.

Language level for holders of a non-Dutch diploma (d)

Competence in the English language as demonstrated by passing one of the following tests:

- TOEFL iBT (Test of English as a Foreign Language internet-Based Test) with an overall band score of at least 100 and a minimum score of 22 for each section
- IELTS (academic version) with an overall band score of at least 7,0 and a minimum score of 6,5 for each section
- Cambridge Assessment English:
  - C1 Advanced (Certificate of Advanced English) with an overall score of 185 and a minimum score of 169 for each section.
  - C2 Proficiency (Certificate of Proficiency in English) with an overall score of 180 and a minimum score of 169 for each section.

Certificates more than two years old will not be accepted.

The following candidates are exempted from the English language test requirement:

- Students who hold the nationality of one of the following countries: USA, UK, Ireland, Australia, New Zealand or Canada;
- Students who hold a Bachelor's degree from one of the above countries.

CONTENT

Addendum to Article 3a TER

1. For Bachelor and Pre-Master students who were enrolled in a relevant Bachelor programme at a Dutch higher education institution or in a Pre-Master programme to a Master programme at CEG or an interfaculty programme in the academic year 2021-2022, the following principles apply for the transition to a Master programme of the CEG faculty or interfaculty programme:
   a. For Bachelor students:
   - Bachelor students may enrol in Master courses and take exams in the academic year 2022-2023 if on 31 August they have a deficit in their BSc programme of no more than 10 EC and have successfully completed their Bachelor thesis.
   - The option to enrol in Master courses and take exams without having completed a Bachelor programme will expire on 31 August 2023.

   b. For Pre-Master students:
   - Pre-Master students may enrol in Master courses and take exams in the academic year 2022-2023 if on 31 August 2022 they have a deficit in their Pre-Master programme of no more than 10 EC.
   - The option to enrol in Master courses and take exams without having completed the Pre-Master programme will expire on 31 August 2023.

2. Students can only have an enrolment under these transition rules in a Master programme once and for a maximum duration of one year. Stacking two enrolments under these transition rules is therefore not possible.

3. Results achieved in the academic year 2022-2023 in one of the Master programmes of the faculty of Civil Engineering and Geosciences will be added to the MSc examination programme as soon as there is a valid enrolment for the relevant MSc programme.

ANNEX

MASTER DEGREE PROGRAMME
CIVIL ENGINEERING

2022
2023

TU Delft

THESE TEACHING AND EXAMINATION REGULATIONS
APPLY TO ALL STUDENTS OF THE COHORT 2022-2023

Article 1 The study load

The study load for the Master's degree programme is 120 EC.

Article 2 Intended learning outcomes

1. Design safe, sustainable, resilient and adaptable civil engineering structures, infrastructures or systems.
2. Analyse, model, predict and explain the behaviour of civil engineering systems at multiple scales.
3. Assess the influence of civil engineering systems on society and the environment and vice versa.
4. Critically assess and apply civil engineering design practices in a complex natural and societal environment.
5. Identify and appreciate societal needs, anticipate future ones and formulate them as civil engineering challenges where appropriate.
6. Operate in international, multicultural, interdisciplinary teams.
7. Formulate a research or a design question and conduct a project to answer that question.
8. Develop creative and innovative, both scientifically and ethically sound answers to civil engineering challenges.
9. Effectively communicate results and opinions with stakeholders of diverse backgrounds.
10. Acquire new knowledge and skills to continue operating effectively.

Article 3 Admission

1. For admission to the MSc Civil Engineering, knowledge and skills at undergraduate level are required in seven fields:

    a. Materials: commonly used civil engineering materials, resources, life cycle, microstructure, physical and mechanical behaviour, sustainability and durability, production.
    b. Geo-engineering: soil characteristics, groundwater, geomechanics, strength of soils, foundations, retaining structures and slopes.
    c. Structures: design and verification of civil engineering structures in steel and concrete, general construction technology.
    d. Fluids: characteristics and properties of fluids, hydrostatics, kinematics, balance equations of mass, volume, momentum and energy, flows around bodies or walls, gradually varying flows in open channels, waves, tides.
    e. Mechanics: statics, solid mechanics, structural analysis, dynamics of civil engineering structures.
    f. Transport: design of transport infrastructures (road, rail), transport and traffic modelling.
    g. Mathematics: calculus, linear algebra, probability and statistics, numerical methods.

    In addition, it is required that students master basics of civil engineering, physics and computer programming.

2. International students holding a BSc in Civil Engineering that complies with the general regulations set by TU Delft, are admissible to the MSc Civil Engineering if their previous education and experience sufficiently covers the 7 fields mentioned in (1). The Admission Committee (sub-committee for the MSc Civil Engineering) decides on admission.
3. Students holding a BSc from a Dutch University other than what is mentioned in the TER, article 3a, section 1b, or a BSc in the fields of Civil Engineering of Built Environment from a Dutch University of Applied Sciences, are required to obtain proof for admission to the programme by completing a bridging programme, tailored to complement the student's previous education and experience to the requirements mentioned in (1).
4. If the study load of the required bridging programme exceeds 50 EC, the student is not admissible.

CONTENT

5. The bridging programme is decreed by the Dean after consultation of the Director of Studies.

6. The Dean decides upon changes of any kind in an already stated bridging programme (addition, removal or replacement of courses) after consultation of the Director of Studies

7. The Board of Examiners decides upon exemptions in an already stated bridging programme after consultation of the Director of Studies.

Article 4 Composition

1. The programme consists of the following components:

   a. the module Modelling, Uncertainty and Data for Engineers: MUDE (12 EC)
   b. the programme base module (9 EC)
   c. the track-specific base module (15 EC)
   d. two track-specific modules (24 EC in total)
   e. one out of the following three options (15 EC in total):
   - Joint Interdisciplinary Project, Multidisciplinary project (15 EC)
   - Research project (10 EC) + free electives (5 EC)
   - Free electives (15 EC)

   f. Cross-programme or cross-track module, listed in article 17 (10 EC)
   g. the thesis preparation module (5 EC)
   h. the MSc Thesis Project (30 EC)
   i. two embedded learning lines: ethics and monitoring and data science (MDS)

Article 5 Matching Mechanism (track registration)

1. All first-year MSc students of Civil Engineering need to register for a track. Students who start in the first quarter need to register in teaching week 1.5.

2. Students need to select three tracks in order of preference and must submit their selection with a motivational letter for their first choice of track in My Study Planning.

3. Students will be automatically be informed in teaching week 1.8 to which track they have been matched.

4. Students can switch between tracks at any moment under the condition that they can be matched to the preferred track and this switch is approved by the track coordinator of that track.

5. Students who have started their programme after teaching week 1.5 need to select their tracks of preference according to sub 2 at the moment they start their master and will be matched to a track after two weeks

Article 6 Components already included in the BSc programme

None of the components of the MSc programme may have formed part of the Bachelor's programme on the basis of which the student was admitted:

- If a compulsory module was already completed in the Bachelor's programme, the Board of Examiners will designate an alternative for the module concerned.
- If an elective module or other course in the MSc programme was already completed in the Bachelor's programme, the student must choose an alternative elective module or other course.
- If only part of the module was already completed in the Bachelor's programme, the student may request the

Article 7 Composing and registering the Individual Study Plan (ISP)

1. Students must submit an Individual Study Plan (ISP) in My Study Planning. The ISP provides an overview of the full MSc programme the student intends to follow, including all modules and electives and components they plan to take abroad.

2. During the course of the studies, students may request changing track modules, electives and track through My Study Planning.

3. The ISP and any subsequent changes to it have to be approved by or on behalf of the Board of Examiners.

4. Approved ISPs are registered in Osiris and are used to monitor the students' progress, as well as to check whether the student has fulfilled all components necessary to graduate.

Article 8 MUDE module

The module Modelling, Uncertainty and Data for Engineers (MUDE – 12 EC) consists of the following themes:

- Theory & Application
- Project

1. All students opting for the MSc Civil Engineering program must complete the faculty base module Modelling, Uncertainty and Data for Engineers (MUDE, 12 EC).

Module code	Module title	ECs
CEGM1000	**Modelling, Uncertainty and Data for Engineers**	**12**

Article 9 Programme base of Civil Engineering

The module Programme base of Civil Engineering (9 EC) consists of the following themes:

- Civil Engineering Systems
- Mechanics for Civil Engineering

1. All students opting for the MSc Civil Engineering program must complete the programme base module Mechanics and Interdisciplinary Perspectives (9 EC).

Module code	Module title	ECs
CIEM0000	**Programme Base: Interdisciplinary Mechanics and Design for CE** » *Civil Engineering Systems Design* » *Mechanics for Civil Engineering*	**9**

Article 10 Tracks

1. The programme comprises the following tracks:
   - Construction Materials (CM)
   - Geotechnical Engineering (GE)
   - Hydraulic Engineering (HE)
   - Hydraulic & Offshore Structures (HOS)
   - Structural Engineering (SE)
   - Traffic & Transport Engineering (TTE)

Article 11 Track: Construction Materials (CM)

1. Track base module: All students opting for the track Construction Materials (CM) must complete the track base module Fundamentals of construction materials (15 EC).

Module code	Module title	ECs
CIEM1000	**Fundamentals of construction materials** » *Science of Construction Materials* » *Fracture Mechanics* » *Materials Selection in Civil Engineering* » *Construction Materials Technology*	**15**

2. A-Module: all students opting for the track CM must complete the following track-specific A-module (9 EC):

Module code	Module title	ECs
CIEM1110	**Module A: Measuring and modelling construction behaviour** » *Numerical modelling of construction materials* » *Experimental characterization of construction materials*	**9**

3. B-Module: all students opting for the track CM must choose one of the following track-specific B-module (15 EC):

Module code	Module title	ECs
CIEM1210	**Module B1: Construction materials research** » *Durability of construction materials and infrastructure* » *Imposed deformations and modelling of construction materials* » *Advanced constitutive modelling*	**15**
CIEM1220	**Module B2: Design and engineering of construction materials** » *Recycling and renewable construction materials* » *Smart materials/Self-healing materials and construction technologies* » *Bio-based/hybrid/composite materials*	**15**

Article 12 Track: Geotechnical Engineering (GE)

1. Track base module: All students opting for the track Geotechnical Engineering (GE) must complete the track base module (15 EC).

Module code	Module title	ECs
CIEM2000	**Geotechnical Engineering** » *Theory and modelling of geo-processes* » *Testing and modelling of soil behaviour* » *Foundations and excavations*	**15**

2. A-Module: all students opting for the track GE must complete the track-specific A-module (9 EC).

Module code	Module title	ECs
CIEM2110	**Module A: Geotechnical modelling** » *Numerical modelling in Geotechnical Engineering* » *Engineering Geology*	**9**

3. B-Modules: all students opting for the track GE must choose one of the following track-specific B-modules (15 EC):

Module code	Module title	ECs
CIEM2210	**Module B1: Geotechnical structures** » *Risk and variability in Geotechnical Engineering* » *Geotechnical design* » *Site investigation and monitoring*	15
CIEM2220	**Module B2: Advanced Soil Mechanics** » *Mechanics of deltaic soils* » *Experimental soil mechanics* » *Soil dynamics*	15
CIEM2230	**Module B3: Delta Geotechnics** » *Mechanics of deltaic soils* » *Geotechnical design* » *Site investigation and monitoring*	15

Article 13 Track: Hydraulic Engineering (HE)

1. Track base module: All students opting for the track Hydraulic Engineering (HE) must complete the track base module (15 EC).

Module code	Module title	ECs
CIEM3000	**Hydraulic Engineering Fundamentals and Environments Part I** » *Modelling Flow, Transport and Bed Protection* » *Waves* » *River Systems and Interventions*	15

2. A-Module: all students opting for the track HE must complete the track-specific A-module (9 EC):

Module code	Module title	ECs
CIEM3110	**Hydraulic Engineering Fundamentals and Evironments Part II** » *Coastal and Estuarine Systems* » *Introduction to Ports and Waterways Systems*	9

3. B-Modules: all students opting for the track HE must choose one of the following track-specific B-modules (15 EC):

Module code	Module title	ECs
CIEM3210	**Module B1: Coastal Engineering** » *Advanced Coastal and Estuarine Systems* » *Coastal and Estuarine Modelling* » *Shore Protection and Breakwaters*	15
CIEM3220	**Module B2: River Engineering** » *Physics of River Systems* » *River Functions & Management* » *Schematization and Modelling of River Problems*	15
CIEM3230	**Module B3: Advanced design of ports and waterways systems and interventions** » *Ports and Waterways - Intervention, Design and Performance evaluation* » *Advanced simulation and quantification methods*	15

CONTENT

Article 14 Track: Hydraulic & Offshore Structures (HOS)

1. Track base module: All students opting for the track Hydraulic & Offshore Structures (HOS) must complete the track base module (15 EC):

Module code	Module title	ECs
CIEM4000	**Hydraulic and Offshore Structures** » *Waves* » *Fluid-Structure Interaction* » *Structural Mechanics* » *Soil-structure interaction*	**15**

2. A-Module: all students opting for the track HOS must choose one of the track-specific A-module (9 EC):

Module code	Module title	ECs
CIEM4110	**Module A1: Hydraulic Structures** » *Ultimate Strength & Fatigue* » *Design of Hydraulic Structures*	**9**
CIEM4120	**Module A2: Offshore Structures** » *Ultimate Strength & Fatigue* » *Design of Offshore Structures*	**9**

3. B-Modules: all students opting for the track HOS must choose one of the following track-specific B-modules (15 EC):

Module code	Module title	ECs
CIEM4210	**Module B1: Offshore Renewables** » *Probablistic design* » *Computational modelling* » *Offshore renewable structures*	**15**
CIEM4220	**Module B2: Dams, Dikes and Breakwaters** » *Probablistic design* » *Computational modelling* » *Dams, Dikes and Breakwaters*	**15**
CIEM4230	**Module B3: Floating and Submerged Structures** » *Probablistic design* » *Computational modelling* » *Floating and submerged structures*	**15**

Article 15 Track: Structural Engineering (SE)

1. Track base module: All students opting for the track Structural Engineering (SE) must complete the track base module (15 EC):

Module code	Module title	ECs
CIEM5000	**Structural Engineering** » *Sustainable Construction Members and Systems* » *Mechanics of Slender Structures*	**15**

CONTENT

2. A-Module: all students opting for the track SE must choose one of the following track-specific A-module (9 EC):

Module code	Module title	ECs
CIEM5110	**Module A1: Structural Mechanics and Dynamics** » *Stability of structures* » *Finite Elements for Structural Analysis* » *Measurement and Analysis of Vibrations*	**9**
CIEM5120	**Module A2: Design of Structural Components** » *Prefabricated and composite structures* » *Design with innovative materials*	**9**
CIEM5130	**Module A3: Design of Civil Structures and Infrastructures** » *General design principles of (infra)structural systems* » *Specific design aspects of buildings, bridges, rail and road structural systems* » *Design challenge*	**9**

3. B-Modules: all students opting for the track SE must choose one of the following track-specific B-modules (15 EC):

Module code	Module title	ECs
CIEM5210	**Module B1: Applied Mechanics of Structures** » *Computational modelling of structures* » *Advanced constitutive modelling* » *Advanced mechanics of structural elements*	**15**
CIEM5220	**Module B2: Applied Dynamics of Structures** » *Structural Response to Earthquakes* » *Dynamics of structures subjected to wind & waves* » *Dynamics of structures under moving loads*	**15**
CIEM5230	**Module B3: Concrete Structures** » *Advanced concrete mechanics* » *Concrete sciences and technology* » *Numerical modelling of structures* » *Concrete structures under special loadings* » *Concrete Bridges*	**15**
CIEM5240	**Module B4: Steel and Composite Structures** » *Strength and durability of steel and composite structures and joints* » *Heavy-duty steel and composite structures* » *Lightweight steel and composite structure*	**15**
CIEM5250	**Module B5: Building Engineering** » *Architecture, Building Physics and Façades* » *Building Structures, Construction Methods and Foundations* » *Design of spatial structures*	**15**
CIEM5260	**Module B6: Transportation Infrastructures** » *Design and Construction of New Transportation Infrastructures* » *Dynamics and Degradation of Transportation Infrastructures* » *Monitoring and Maintenance of Transportation Infrastructures*	**15**

CONTENT

Article 16 Track: Traffic & Transport Engineering (TTE)

1. Track base module: All students opting for the track Traffic & Transport Engineering (TTE) must complete the track base module (15 EC):

Module code	Module title	ECs
CIEM6000	**Track base module: Traffic and Transport Engineering** » *Planning and design of Traffic and Transportation Networks and Infrastructure* » *Transport Modelling and Analysis* » *Traffic Modelling and Management*	**15**

2. A-Module: all students opting for the track TTE must complete the track specific A-module (9 EC):

Module code	Module title	ECs
CIEM6110	**Module A1: Methods in Traffic and Transport Engineering** » *Empirical Analysis for Transport and Traffic Engineering* » *Optimisation in Transport Engineering* » *Simulation and Uncertainty in Transport Engineering*	**9**

3. B-Modules: all students opting for the track TTE must choose one of the following track-specific B-modules (15 EC):

Module code	Module title	ECs
CIEM6210	**Module B1: Transport Networks and Systems** » *Transport Modelling* » *Regions, Transport and Networks* » *Freight transport networks and systems* » *Sustainable and Resilient Transport Networks and Systems*	**15**
CIEM6220	**Module B2: Road Traffic Systems** » *Active modes: traffic and transport* » *Traffic safety* » *Intelligent vehicles for safe and efficient traffic* » *Urban and motorway traffic flow modelling and control*	**15**
CIEM6230	**Module B3: Public Transport and Railway Systems** » *Public Transport System and Supply Planning and Operations* » *Public Transport Demand and Network Planning and Operations* » *Railway Operations and Control*	**15**
CIEM6240	**Module B4: Road and Railway Engineering** » *Road Engineering* » *Railway Engineering* » *Integrated Project*	**15**

CONTENT

Article 17 Cross-programme and cross-track modules CIE

Module code	Module title	ECs
CEGM2000	Understanding MUD: From Suspended Clay to Soil	10
CEGM2001	Sustainable Cities	10
CEGM2002	Engineering for Global Development	10
CEGM2003	Data Science and Artificial Intelligence for Engineers	10
CEGM2004	Noise and Vibration: generation, propagation and effect on humans and environment	10
CEGM2005	Advanced Topics Probability Statistics Engineering	10
CEGM2006	Subsurface storage: energy and climate	10
CEGM2007	Resilient Deltas under Climate Change/Delta Technology	10
CEGM2008	Monitoring of Structural Health and Geohazards	10

Article 18 Electives

1. For the free electives mentioned in article 4e, students may choose:
   - **a.** Modules included in the programme as outlined in the articles 11, 12, 13, 14, 15,16 and 18 section 2 ;
   - **b.** Other MSc courses offered by the TU Delft, another Dutch University, or an university abroad with an exchange contract with the TU Delft;

   Sub a and sub b are valid on the condition that:
   - » the content of the electives does not overlap with that of other courses and modules included in the Individual Study Plan;
   - » the electives help the student to reach the intended learning outcomes outlined in article 2 of this annex;
   - » the student meets the entry requirements for the electives

   - **c.** Contrary to the sub b, students may not choose as free electives[1]:
     - » Internship;
     - » Interfaculty Master's-level electives at Delft University of Technology with a "WM-code[2];
     - » Courses offered by the Graduate School;
     - » MOOCs
   - **d.** Students must register and get their electives approved according to the procedure described in article 6.

2. The electives offered by the programme Civil Engineering are listed below per track. Students are allowed to choose all electives from all tracks if they meet the conditions mentioned in article 18.1

The electives related to CM are:

Module code	Module title	ECs
CIEM1301	Advanced computational mechanics	5
CIEM1302	Forensic Construction Materials Engineering	5
CIEM1303	Upscaling Techniques in Construction Materials Design and Engineering	5
CIEM1304	Glass Science and Engineering	5

The electives related to GE are:

Module code	Module title	ECs
CIEM2301	Offshore Geotechnical Engineering	5
CIEM2302	Trenchless Technologies	5
CIEM2303	Rock Mechanics Applications	5
CIEM2304	Environmental and Energy Geotechnics	5

CONTENT

1. *This means that the courses are not allowed within the examination programme but only as extracurricular.*
2. *Courses with obvious technical-scientific added value can be admissible, but subjects like writing, oral presentation, didactics etc. are not allowed*

The electives related to HE are:

Module code	Module title	ECs
CIEM3301	Building with Nature	5
CIEM3302	Dredging	5
CIEM3303	Advanced 3D flows	5
CIEM3304	Coastal & Ocean-Scale Oceanography	5

The electives related to HOS are:

Module code	Module title	ECs
CIEM4301	Onshore hydropower	5
CIEM4302	Cold regions engineering	5
CIEM4303	Flood risk	5
CIEM4304	Hydraulics Fieldwork	5

The electives related to SE are:

Module code	Module title	ECs
CIEM5301	Shell structures	5
CIEM5302	Random, parametric and nonlinear vibration	5
CIEM5303	Wave Mechanics of Structures	5
CIEM5304	CO2 Neutral Structures	5
CIEM5305	Fire safety Design	5
CIEM5306	Assessment of existing concrete structures	5
CIEM5307	Forensic Structural Engineering	5
CIEM5308	Parametric Design and Digital Fabrication	5
CIEM5309	Advanced Building Physics	5
CIEM5310	Contact and Interface Mechanics for Engineering Structures	5
CIEM5311	Loading and Life Time Prediction of Transportation Infrastructure	5
CIEM5312	Emerging Technologies for Transportation Infrastructure	5

The electives related to TTE are:

Module code	Module title	ECs
CIEM6301	Railway Traffic Management	5
CIEM6302	Advanced Machine Learning for Traffic and Transportation	5
CIEM6303	Transitions, sustainability & Innovation	5
CIEM6304	eXtended Reality (XR) for Civil Engineering	5

Article 19 Thesis preparation

1. Students may start the thesis preparation module only when they have completed at least 60 EC, including at least the MUDE, the programme base module and the track base module, in their individual programme.

2. As part of the module, students must write a thesis proposal with a draft work plan and finalise the learning line on ethics.

Module code	Module title	ECs
CIEM0400	Master Thesis preparation	5

Article 20 Master Thesis Project

1. Students may start their Master Thesis Project when they have successfully completed the thesis preparation module.

2. The Master Thesis Project is assessed by an assessment committee composed according to article 23 of the Rules and Guidelines Board of Examiners.

3. The assessment committee must approve significant changes in the thesis proposal.

4. During the Master Thesis Project there is at least one interim meeting with the assessment committee to gauge progress.

5. Each time the assessment committee meets with the student, excepted the final presentation and defence, the student must make short minutes and send these within one week to the assessment committee for approval. If no reaction is received within a week, the minutes are approved.

6. Before a final presentation date can be agreed, the student must have completed all other programme obligations and present the draft report to the complete assessment committee (the “green light meeting”).

7. After the student has received the assessment committee’s approval, the student must arrange a date for the final presentation and defence.

8. A minimum of two members of the assessment committee, one of whom must be the chair, have to be present at the time of the final presentation and defence. Members not present must send their assessment of the Master thesis to the chair of the committee before the final presentation and defence.

9. The chair of the committee determines the mark for the Master Thesis Project immediately following the final presentation, after close consultation with the other committee members and using the rubric for the Master Thesis Project.

10. The chair of the assessment committee is furthermore responsible for ensuring that the rules on the Master Thesis Project are followed and that the time devoted to the work involved does not exceed the time allotted to the project, based on the number of ECs, provided the level of the Master Thesis Project is sufficient.

11. The track co-ordinator or graduation co-ordinator, as the case may be, keeps a record of how long students have worked on the Master Thesis Project. If this is more than 10 months, the co-ordinator asks the student and the assessment committee’s chair for an explanation. If the student subsequently does not make sufficient progress, the coordinator must notify the Board of Examiners, who may decide that the current version of the Master thesis be considered as the “greenlight version”. If this version cannot be approved, the student must start anew and make a new thesis proposal.

Module code	Module title	ECs
CIEM0500	Master Thesis	30

Article 21 Master's Honours Programme

1. Motivated students who have finished their Bachelor's degree course with a weighed averaged mark of 7.5 or higher, and students who have excelled during the first semester (no fails and a weighted average of 7.5 or higher) are eligible for the Master's Honours Programme.

2. Students who fulfil or will fulfil the requirements laid down in section 1 can send an application for admission to the Honours programme coordinator, together with an essay in English, containing their motivation and a proposal for the programme. The Honours Programme coordinator decides on admission.

3. The Master's Honours Programme comprises at least 20 EC:
   a. At least 5 EC must be completed in the institution-wide component of the Master's Honours Programme: the subject 'Critical Reflection on Technology' (UD2010)
   b. At least 15 EC must be completed in the Masters component of the Master's Honours Programme, which should be thematically consistent. The Masters component has to be approved by a scientific staff member and the Honours Programme coordinator.

4. The Master's Honours Programme has to be completed during the course of the student's Master's programme. None of the results may be lower than 6.0.

5. The Board of Examiners is responsible for assessing whether all the requirements of the Master's Honours Programme have been met.

Article 22 Transitional rules academic year 2022-2023

In academic year 2022-2023 the master programme Civil Engineering will start with a new curriculum. The courses of the curriculum offered in academic year 2021-2022 will step-by step be discontinued. These transitional rules apply to all students of the master programme Civil Engineering of cohort 2021/2022 and earlier.

1. Discontinued courses 2022-2023.
   a. All courses listed in appendix 1 are discontinued as of academic year 2022/2023.
   b. Two final exam opportunities are offered for these courses in academic year 2022/2023.
   c. As of academic year 2023/2024, when the courses have been fully discontinued (and the two examination opportunities in 2022-2023 have passed) replacement subjects from the new curriculum will be available for students. This equivalency matrix, per discontinued course, can already be found in appendix 1.
   d. Equivalencies are a temporary measure and are only available for students of the discontinued Civil Engineering curriculum. These equivalencies enable them to successfully complete their exam programme but they can only be used for courses that are part of their exam programme. Equivalencies are therefore not freely accessible.
   e. Contrary to sub c and d, some specific equivalencies have already been made available in academic year 2022/2023 but only for students of master programmes Transport, Infrastructure and Logistics and Offshore & Dredging Engineering. These exceptions are listed in the annexes of the Teaching and Examination Regulations of these programmes.

2. Choosing modules from the curriculum 2022-2023 as free electives.
   a. All Civil Engineering students of cohort 2021/2022 and earlier may choose modules of the redesigned Civil Engineering, Applied Earth Sciences and new Environmental Engineering programme in order to fill free elective space in their programme.
   b. Only entire modules can be selected.
   c. Course-specific content and learning objectives from the student's examination programme may not overlap with the content and learning objectives of the module of the new programme that the student want to follow as a free elective. Partial overlap is also not allowed.

CONTENT

3. Switching to Civil Engineering curriculum of academic year 2022-2023.
   a. Students can switch to the curriculum of 2022-2023 under the condition that they meet the admission requirements of the new curriculum.
   b. Earned credits from the old programme can be used to fill the free elective space within the new programme after switching, under the condition that the content and the learning objectives of the completed courses of the old programme do not overlap with the content and the learning objectives of compulsory modules of the new programme.
   c. Students that follow equivalencies that have fewer credits than the discontinued course, have to follow additional specialization courses or free electives in consultation with their track coordinator in order to obtain the minimum of 120 credit needed to complete their MSc programme.
   d. Students that follow equivalencies that have more credits than the discontinued course, can include these credits as specialization courses or free electives.
   e. It is not allowed to include both a course and its equivalent in an exam programme.

4. Time period transitional rules.
   a. The transitional rules are valid until the end of academic year 25/26.
   b. Student within the old programme that have not finished their program by the end of academic year 25/26 will automatically be transferred to the new programme and therefore must comply to the admission requirements of the new programme.

Article 23 Deviations from the programme

The Board of Examiners may allow students to deviate from the rules on the programme, including the transitional rules, if the achievement of the intended learning outcomes of the programme are safeguarded.

Article 24 When the rules do not provide

Insofar as this annex does not provide for specific circumstances, the Board of Examiners will make a decision that is in line with this annex to every extent possible and according to the principles mentioned in article 6 of its Rules & Guidelines.

CONTENT

Appendix 1 Equivalency matrix

1. All MSc Civil Engineering courses listed below are discontinued as of academic year 2022–2023 due to the start of the redesigned MSc Civil Engineering program. Two final exam opportunities are offered to complete these courses in academic year 2022-2023.

2. For the following courses, there is an equivalent part of a module available in the new programme in which students as described in article 22 can participate as of academic year 2023-2024 when no more exam opportunities are offered for the discontinued course and the discontinued course has not been successfully finished.

Equivalency matrix				
code	course	EC	Equivalency	EC Eq.
CIE4030	Methodology for Scientific Research	3	CIEM0400	**3**
CIE4100	Materials and Ecological Engineering	4	CEGQ2001-1	**5**
CIE4110	Timber Structures and Wood Technology	4	CIEQ5121A	**4**
CIE4121	Steel Structures 3	4	CIEQ5241	**5**
CIE4125	Structural Design – Case Study Steel, Timber of FRP	3	CIEM5304	**5**
CIE4130	Probabilistic Design and Risk Management	4	CME4150	**4**
CIE4140	Structural Dynamics	4	CIEQ5002A	**4**
CIE4143	Shell Analysis, Theory and Application	4	CIEM5301	**5**
CIE4150	Plastic Analysis of Structures	4	CIEQ5213	**6**
CIE4160	Prestressed Concrete	4	CIEQ5001	**3**
CIE4170	Construction Technology of Civil Engineering Structures	4	CME4170	**5**
CIE4180	Plates and Slabs	4	CIEQ5002B	**3**
CIE4190	Analysis of Slender Structures	4	CIEQ5002C	**4**
CIE4202	Architectural History of Buildings	4	CIEQ5251A	**4**
CIE4210	Parametric Design and Engineering	3	CIEM5308	**5**
CIE4220	Introduction to Building Physics and Façades	6	CIEQ5251B	**4**
CIE4225	Advanced & Applied Building Physics	6	CIEM5309	**5**
CIE4281	Building Structures 2	4	CIEQ5252	**3,5**
CIE4285-20	Structural glass	4	CIEM1304	**5**
CIE4301	Building with Nature in Hydraulic Engineering	5	CIEM3301	**5**
CIE4305	Coastal Dynamics 1	6	CIEQ3111	**6**
CIE4308	Sediment Dynamics	3	CIEQ3211A	**5**
CIE4309	Coastal Dynamics 2	5	CIEQ3211B	**5**
CIE4325	Ocean Waves	6	CIEQ3002	**5**
CIE4330	Ports & Waterways 1	4	CIEQ3112	**3**
CIE4340	Computational Modelling of Flow and Transport	4	CIEQ3001	**6**
CIE4345	River Dynamics 1	4	CIEQ3003	**4**
CIE4362-20	Soil-structure Interaction	4	CIEQ2003A	**4**
CIE4363	Deep Excavations	4	CIEQ2003B	**4**
CIE4365-16	Modelling Coupled Processes for Engineering Applications	5	CEGQ1001	**6**
CIE4366	Numerical Modelling in Geo-Engineering	6	CIEQ2111	**4**
CIE4367-16	Design of Embankments	3	CIEQ2212A	**4**
CIE4395	Risk and Variability in Geo-Engineering	4	CIEQ2211	**5**
CIE4400	Hydroeconomic Modelling	4	ENVQ1603B	**5**

CONTENT

Equivalency matrix				
code	course	EC	Equivalency	EC Eq.
CIE4410	Water Systems, People and Society	4	ENVQ1603A	**5**
CIE4415	Design of Water Treatment Plants	5	ENVQ1600A1	**6**
CIE4431	Hydrological Modelling	4	ENVQ1502C	**3**
CIE4440	Hydrological Processes and Measurements	4	ENVQ1502C	**4**
CIE4450	Integrated Water Management	4	ENVQ1000C	**4**
CIE4491	Urban Drainage and Watermanagement	4	ENVM1501	**9**
CIE4495-13	Fundamentals of Water Quality and Treatment	4	ENVQ1400A	**4**
CIE4510-20	Climate Change: Science & Ethics	4	TPM003A	**5**
CIE4601	Physics of the Earth and Atmosphere	5	AESM1002	**5,5**
CIE4603-16	Geo-signal Analysis	6	AESQ303A12	**6**
CIE4604	Simulation and visualization	5	AESQ303A3	**3**
CIE4606	Geodesy and Remote Sensing	5	AESM2001	**5,5**
CIE4611	Geo-measurement processing	5	CEGQ1001	**6**
CIE4615	GRS fieldwork	3	AESQ402B2	**3**
CIE4701	Transport processes in Environmental Science and Engineering	4	ENVQ1000A	**4**
CIE4702	Integrated Project: Leapfrog Environmental Degradation	4	ENVQ1000C	**4**
CIE4703-19	Water Treatment	6	ENVQ1600	**6**
CIE4704	Chemical Conversions in Environmental Engineering	5	ENVQ1500A1	**5**
CIE4705	Environmental Biotechnology & Microbiology	6	ENVQ1500A2	**6**
CIE4706	Introduction into Meteorology	5	AESQ3001	**5**
CIE4707	Air Quality	5	ENVQ1700	**5**
CIE4708	Water in the Atmosphere	5	AESQ301A2	**5**
CIE4709	Remote Sensing for Environmental Monitoring	5	ENVQ1800	**6**
CIE4710	Materials Separation in Waste Processing	5	ENVQ1200A	**5**
CIE4801-18	Transport modelling	6	CIEQ6002	**5**
CIE4811-18	Planning and operations of public transport systems	6	CIEQ6232	**5**
CIE4825	Traffic Flow Modelling and Control Part 1	6	CIEQ6003	**5**
CIE4831-18	Empirical Analysis for Transport & Planning	6	CIEQ6111	**3**
CIE4835	Transport Engineering and Optimisation	4	CIEQ6112	**4**
CIE4845	Emerging Topics for Transport & Planning	4	CIEM6303	**5**
CIE4860	Structural Pavement Design	6	CIEQ5261A	**7**
CIE4870	Structural Design of Railway Track	4	CIEQ5261B	**4**
CIE4880	Road Paving Materials incl. Laboratory Experiment	7	CIEQ5262	**5**
CIE5100	Repair and Maintenance of Construction Materials	4	CIEQ1001	**5**
CIE5102	Forensic Building Materials Engineering	3	CIEM1302	**5**
CIE5110	Concrete - Science and Technology	4	CIEQ1004	**3,5**
CIE5122	Capita Selecta Steel and Aluminium Structures	4	CIEQ5243	**3**
CIE5123	Introduction to the Finite Element Method	4	CIEQ5112	**3**
CIE5124	Biobased Structures and Materials	4	CIEM5304	**5**
CIE5125	Steel Bridges	4	CIEQ5242	**4**
CIE5126-20	Fatigue	3	CIEQ5241	**3**
CIE5127	Concrete Bridges	4	CIEQ5235	**3**

CONTENT

Equivalency matrix				
code	course	EC	Equivalency	EC Eq.
CIE5130	Capita Selecta Concrete Structures	4	CIEQ5234	**3**
CIE5131	Fire Safety Design	3	CIEM5305	**4**
CIE5145	Random Vibrations	4	CIEQ5222	**4**
CIE5146	Micromechanics and Computational Modelling of Building Materials	3	CIEQ1000	**4**
CIE5251-09	Structural Design, Special Structures	5	CIEQ5253	**5**
CIE5260	Structural Response to Earthquakes	4	CIEQ5221	**5**
CIE5300	Dredging Technology	4	CIEM3302	**5**
CIE5305	Bored and Immersed Tunnelling	4	CIEQ2212B	**4**
CIE5306	Ports and Waterways 2	4	CIEQ3231	**4**
CIE5308	Breakwaters and Closure Dams	4	CIEQ4223	**4**
CIE5310	Probabilistic Design in Hydraulic Engineering	3	CEGQ2005-1	**3**
CIE5311	River Dynamics 2	4	CIEQ3221	**4**
CIE5312	Turbulence in Hydraulics	3	CIEM3303	**5**
CIE5313-18	Hydraulic Structures 2	3	CIEQ4112	**6**
CIE5314-19	Flood Defences	4	CIEM4303	**5**
CIE5315	Computational Hydraulics	3	CIEM3303	**5**
CIE5321	Experimental methods in geotechnical engineering	5	CIEQ2222	**5**
CIE5325	Coastal and Basin-scale Physical Oceanography	6	CIEM3304	**5**
CIE5340-18	Soil dynamics	4	CIEQ2223	**4**
CIE5440	Groundwater Modelling	4	ENVQ1602B	**6**
CIE5450	Hydrology of Catchments, Rivers and Landscapes	4	ENVQ1502A	**4**
CIE5471	Hydrological and Ecological Fieldwork in River Systems	4	ENVQ1602C	**5**
CIE5490	Operational Water Management	4	ENVQ1603C	**5**
CIE5550	Urban Water Transport Infrastructure	4	ENVQ1601	**4**
CIE5802-18	Advanced Transport Modelling	4	CIEQ6211	**3**
CIE5803-18	Railway Traffic Management	4	CIEM6301	**5**
CIE5805-18	Intelligent Vehicles for Safe and Efficient Traffic: Design and Assessment	4	CIEQ6223	**4**
CIE5810-19	Traffic Safety	4	CIEQ6222	**3**
CIE5815	Resilient Transport Systems: Analysis and Interventions	4	CIEQ6214	**4**
CIE5816	Urban Regions, Transport, and Economics	4	CIEQ6212	**4**
CIE5817	Assessment of Transport Infrastructure and Systems	4	SEN171A	**5**
CIE5821	Traffic Flow Modelling and Control Part 2	4	CIEQ6224	**5**
CIE5822	Active Modes: Traffic and Transport	4	CIEQ6221	**3**
CIE5825	Advanced Public Transport Operations and Modelling	4	CIEQ6231	**5**
CIE5826	Railway Operations and Control	4	CIEQ6233	**5**
CIE5830	Freight Transport Systems: Analysis and Modelling	5	CIEQ6213	**4**
CIE5871	Capita Selecta Railway and Road Structures	4	CIEM1303	**5**
CIE4040-09	Internship	10	CIEM0120	**10**
CIE4061-09	Multidisciplinary Project, Civil Engineering Consultancy Project	10	CEGM3000	**15**
CIE5050-09	Additional Graduation Work, Research Project	10	CIEM0120	10
CIE5421	Water and Health	4	To be determined	TBD

CONTENT

3. All MSc Civil Engineering courses listed below are discontinued as of academic year 2022–2023 due to the start of the redesigned MSc Civil Engineering program. Two final exam opportunities are offered to complete these courses in academic year 2022-2023. For the following courses there is no equivalent part of a module available in the new program.

code	course	EC	Equivalency	EC Eq.
CIE4040-09	Internship	10	No equivalency	No equivalency
CIE4145-09	Dynamics and Introduction to Continuum Mechanics	4	No equivalency	No equivalency
CIE4310	Bed, Bank and Shore Protection	4	No equivalency	No equivalency
CIE4353	Continuum Mechanics	6	No equivalency	No equivalency
CIE4361	Behaviour of Soils and Rocks	6	No equivalency	No equivalency
CIE4370-19	Introduction to Structural Mechanics	2	No equivalency	No equivalency
CIE4390	Geo-risk Management	3	No equivalency	No equivalency
CIE4420	Principles of Geohydrology	4	No equivalency	No equivalency
CIE4460	Polders and Flood Control	4	No equivalency	No equivalency
CIE4522-15	GPS for Civil Engineering and Geosciences	4	No equivalency	No equivalency
CIE4602	Cryosphere: remote sensing and modelling	4	No equivalency	No equivalency
CIE4605	Atmospheric Turbulence	4	No equivalency	No equivalency
CIE4607	Ocean topography and sea-level change	4	No equivalency	No equivalency
CIE4608	Atmospheric remote sensing	4	No equivalency	No equivalency
CIE4609	Geodesy and natural hazards	4	No equivalency	No equivalency
CIE4610	Gravity, geodynamics and climate change	4	No equivalency	No equivalency
CIE4614-20	3D surveying of civil and offshore infrastructure	5	No equivalency	No equivalency
CIE4620	Climate Data Analysis	5	No equivalency	No equivalency
CIE4780	Trending Topics in Geo-Engineering	4	No equivalency	No equivalency
CIE4871	Design and Maintenance of Railway Vehicles	4	No equivalency	No equivalency
CIE4873	Wheel-Rail Interface	4	No equivalency	No equivalency
CIE4874	Elements of Railway Engineering	4	No equivalency	No equivalency
CIE5304	Waterpower Engineering	3	No equivalency	No equivalency
CIE5401	GIS & Remote Sensing for water resources	3	No equivalency	No equivalency
CIE5510	Water Management in Urban areas	4	No equivalency	No equivalency
CIE5541	Urban Water Infrastructure: Monitoring and Modelling	3	No equivalency	No equivalency
CIE4320	Vibration-based Monitoring and Identification	4	No equivalency	No equivalency