MSc track Hydraulic Engineering

for students starting in the academic year 2020-2021

BROCHURE

De Nieuwe Afsluitdijk (www.deafsluitdijk.nl)

Faculty of Civil Engineering and Geosciences

TU Delft

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1. General information

Education in the academic year 2020-2021 will likely be mostly online, but the situation is fluid, so please refer frequently to the TUD page for general updates and Brightspace for each course.

The Master of Science Civil Engineering at Delft University of Technology offers eight tracks, each of which focuses on a specific range of topics. One of these tracks is the MSc track Hydraulic Engineering (MSc-HE). The MSc track Hydraulic Engineering consists of seven specialisations:

1. Coastal Engineering (CE)
2. River Engineering (RE)
3. Dredging Engineering (DE)
4. Ports and Waterways (PW)
5. Environmental Fluid Mechanics (EFM)
6. Hydraulic Structures (HS)
7. Flood Risk (FR)

Admission to the MSc track Hydraulic Engineering provides admission to each of the seven specialisations.

This brochure provides information on the way these seven specialisations are organized in terms of compulsory, elective, and recommended courses, as well as information on the internship, Civil Engineering consultancy project, additional thesis, annotations, and the MSc thesis. This brochure aims to provide information to students who are interested in what the MSc track Hydraulic Engineering is about and those who want to compose their own programme.

Please note that this brochure specifically aims to provide information to students that start with the MSc track Hydraulic Engineering in the academic year 2020-2021. Also note that this brochure, though it provides useful information, has **no formal status**. The Teaching and Examination Regulations (TER) always overrule the brochure and are available at https://www.tudelft.nl/en/student/faculties/ceg-student-portal/education/education-information/regulations-ter-rules-and-guidelines/. Students who started their master before September 2019 should consult the TER of the specific academic year (https://www.tudelft.nl/en/student/faculties/ceg-student-portal/education/education-information/regulations-archive-msc/). For topical information we refer to Brightspace "Master Hydraulic Engineering". Information on the content, learning objectives, regulations regarding participation, and the examination procedure of a specific course can be found in the course browser (https://studiegids.tudelft.nl/). Brightspace "Master Hydraulic Engineering" also provides the brochure "An MSc Thesis Project in the MSc track Hydraulic Engineering", which contains detailed information about thesis projects and other graduation-related aspects.

The educational programmes for the seven specialisations share a general outline (see Chapter 2) but differ with respect to compulsory courses and recommended elective courses. Students usually choose a specific specialisation during the first semester of the MSc programme, which determines the set of compulsory courses (see Chapter 3).

Beginning with the 2020-2021 academic year, students will need to register for a specialization and select courses using the website My Study Planning (MSP): https://mystudyplanning.tudelft.nl/. More information can be found through the student portal and/or Brightspace.

2. General outline of the MSc track Hydraulic Engineering

2.1. Scheme of the MSc track Hydraulic Engineering

The general outline of the programme of the MSc track Hydraulic Engineering consists of four main constituents:

FIRST YEAR	SECOND YEAR
Track-related courses (total of 55 or 56 EC) - compulsory courses (24EC) - specialisation-related compulsory courses (16 up to 24EC) - track-related elective courses (8 up to 16EC) **Ethics course** (4 or 5EC)	**Special subjects** (total of 20EC) - internship (10EC) - Civil Engineering consultancy project (10EC) - additional graduation work or research project (10EC) - extra courses (10 or 20EC) **MSc thesis** (40EC)

2.2. The ethics course

A course on ethics (4 or 5EC) is compulsory for all MSc students in Civil Engineering. Choose one out of the following five courses:

1. Philosophy, Technology Assessment and Ethics for CT (WM0312CIE, 4EC)
2. Climate Change: Science & Ethics (CIE4510, 4EC)
3. Ethics of Transportation (WM1302TU, 5EC)
4. Ethics of Technological Risk (WM0376TU, 5EC)
5. Water Ethics (TPM003A, 5EC)

2.3. Track-related courses

Track-related courses are either compulsory or elective courses associated with the track Hydraulic Engineering. Regarding the compulsory courses, distinction is made between a common block, which is compulsory for all specialisations, and specialisation-related compulsory courses. Chapters 3 and 4 provide information on, respectively, the track-related compulsory courses and the track-related elective courses.

A *track-related elective* course can be replaced by a course on a subject that sufficiently fits the chosen specialisation and offered at another university, either domestic or foreign. This only holds provided that, in advance, you have received positive advice from the curriculum coordinator. Naturally the course must be of at least MSc level.

Under certain conditions it is possible to replace a *compulsory* course by one offered at another university, either domestic or foreign. In this case you must (before you attend the course!) provide evidence to the Board of Examiners that the replacement is sufficiently comparable in terms of content and study load. Formal permission from the Board of Examiners (also see Section 7.1.) will be required.

2.4. The 'special subjects'

Besides one of the five Ethics courses (4 or 5EC), the track-related courses (55 or 56EC), and your MSc thesis project (40EC), the MSc track Hydraulic Engineering includes a part that is called 'special subjects' (20EC). Here you need to choose between the following five options:

1. Internship (CIE4040-09, 10EC) + 10EC of Extra Courses
2. Additional graduation work or research project (CIE5050-09, 10 EC) + 10EC of Extra Courses
3. Multidisciplinary project or Civil Engineering consultancy project (CIE4061-09, 10EC) + 10EC of Extra Courses
4. 20EC of Extra Courses
5. Annotation

Apart from the extra courses, these options are project-based and commonly cover one period of two to three months. The Civil Engineering consultancy project inherently involves teamwork with colleagues from various disciplines, but the focus is typically on a hydraulic engineering problem. Although it may be related to one's MSc thesis, the additional thesis is always assessed individually and separately from the MSc thesis.

As a rule, internships, Civil Engineering consultancy projects and additional theses involve at least 8 weeks of full time work and are worth exactly 10EC, even if more time is spent. It is not possible to combine, for instance, half an internship with 5EC worth of extra courses into a single option.

For 10EC of the 'extra courses' option, courses of MSc level can be selected. Restrictions, however, apply to courses on non-technical subjects. Language and skills-related courses, for instance, cannot be included. If you have doubts, please check with the curriculum coordinator (masterHE-CEG@tudelft.nl) whether restrictions apply to a specific course that you are considering.

If you choose for '20EC of Extra Courses', 10EC of the 20EC need to be related to the MSc program Civil Engineering. The other 10EC need to be courses of MSc level, yet restrictions apply to courses on non-technical subjects. Again: language and skills-related courses are not allowed.

The option of 'extra courses' may also be used for completing an 'annotation'.

Chapter 5 will provide more detailed information on the 'special subjects'.

2.5. The MSc thesis project

The MSc thesis project is the final part of the MSc trach Hydraulic Engineering. The formal start of the project is preceded by a period of orientation on possible problems or thesis topics, contacting a daily advisor and the chair of your graduation committee, as well as getting acquainted with the way things work in an MSc thesis project.

Although there is a general outline, MSc thesis projects largely vary between each other. Each MSc thesis project is a unique project.

You will find more information on the MSc thesis project in Chapter 6. Formal procedures and other graduation aspects are described in the "Guidelines Graduation Thesis MSc HE" (available on Brightspace "Master Hydraulic Engineering").

2.6. Subdivision of 120EC for the seven specialisations

The table below illustrates how the 120EC of the MSc track Hydraulic Engineering are distributed over the various elements of the MSc programme:

specialisation	Ethics course	compulsory courses	specialisation-related compulsory courses	track-related elective courses	`special subjects'	MSc thesis project
1. Coastal Engineering	4 or 5	24	17	14 or 15	20	40
2. River Engineering	4 or 5	24	19	12 or 13	20	40
3. Dredging Engineering	4 or 5	24	20	11 or 12	20	40
4. Ports and Waterways	4 or 5	24	20	11 or 12	20	40
5. Environmental Fluid Mechanics	4 or 5	24	16	15 or 16	20	40
6. Hydraulic Structures	4 or 5	24	16 to 24	7 to 16	20	40
7. Flood Risk	4 or 5	24	21	10 or 11	20	40

3. Compulsory courses for the 7 specialisations

For each specialisation the track-related courses consist of (a) a common block of compulsory courses of 24EC, (b) an additional specialisation-related block of compulsory courses, and (c) track-related elective courses. Together these track-related courses must add up to a total of 56EC (also see Chapter 2).

The next sections details the two blocks of compulsory courses: the common Hydraulic Engineering block of 24EC, as well as the additional specialisation-related blocks of compulsory courses. The track-related elective courses will be considered in Chapter 4.

In addition to the below lists of compulsory courses, students must meet the following requirements:

- Students who have not completed Open Channel Flow (CTB3350) in the Bachelor's phase will have to complete CIE3310-09 as a compulsory elective course. Students with a relevant foreign Bachelor of Science degree have to complete CIE3310-09 as a compulsory elective subject, if required by intake.
- Students who have not completed Hydraulic Structures 1 (CTB3355) in the Bachelor's phase will have to complete CIE3330 as a compulsory elective course. Students with a relevant foreign Bachelor of Science degree have to complete CIE3330 as a compulsory elective subject, if required by intake.
- Students with a relevant foreign Bachelor of Science degree need to, if required by intake, do Dynamics and Introduction to Continuum Mechanics (CIE4145-09) as a compulsory elective subject.

3.1. Common block of compulsory courses

code	subject	EC
CIE4130	Probabilistic Design and Risk Management	4
CIE4305	Coastal Dynamics 1	6
CIE4310	Bed, Bank and Shore Protection	4
CIE4325	Ocean Waves	6
CIE4345	River Dynamics 1	4
		24

This common block applies to all students in the MSc track Hydraulic Engineering.

3.2. Additional compulsory courses for each of the specialisations

Specialisation Coastal Engineering

code	subject	EC
CIE4309	Coastal Dynamics 2	5
CIE4330	Ports and Waterways 1	4
CIE4340	Computational Modelling of Flow and Transport	4
CIE5308	Breakwaters and Closure Dams	4
		17

Specialisation River Engineering

code	subject	EC
CIE4330	Ports and Waterways 1	4
CIE4340	Computational Modelling of Flow and Transport	4
CIE5300	Dredging Technology	4
CIE5311	River Dynamics 2	4
CIE5315	Computational Hydraulics	3
		19

Specialisation Dredging Engineering

code	subject	EC
CIE4330	Ports and Waterways 1	4
CIE5300	Dredging Technology	4
CIE5311	River Dynamics 2	4
OE44035	Dredging Pumps and Slurry Transport	4
OE44040	Dredging Processes 1	4
		20

Specialisation Ports and Waterways

code	subject	EC
CIE4330	Ports and Waterways 1	4
CIE4340	Computational Modelling of Flow and Transport	4
CIE5300	Dredging Technology	4
CIE5306	Ports and Waterways 2	4
CIE5311	River Dynamics 2	4
		20

Specialisation Environmental Fluid Mechanics

code	subject	EC
CIE4340	Computational Modelling of Flow and Transport	4
CIE5312	Turbulence in Hydraulics	3
CIE5315	Computational Hydraulics	3
CIE5325	Coastal and Basin-scale Physical Oceanography	6
		16

Specialisation Hydraulic Structures

code	subject	EC
CIE3109-09[1]	Structural Mechanics 4	4
CIE3150[2]	Concrete Structures 2	4
CIE4140	Structural Dynamics	4
CIE4170	Construction Technology of Civil Engineering Structures	4
CIE5260	Structural Response to Earthquakes	4
CIE5313-18	Hydraulic Structures 2	4
		16 up to 24

The course CIE4145-09 Dynamics and Introduction to Continuum Mechanics is strongly recommended for Dutch students with a BSc in Civil Engineering from the University of Twente.

The specialisation Flood Risk is described on the next page.

[1] Not if CTB3330 has been completed in the Bachelor's phase
[2] Not if CTB3335 has been completed in the Bachelor's phase

Specialisation Flood Risk

code	subject	EC
CIE4420[3]	Principles of Geohydrology	4
CIE5310	Probabilistic Design in Hydraulic Engineering	3
CIE5314-19	Flood Defences	4
		11

Students who have opted for the specialisation Flood Risk must additionally complete at least 10EC chosen from the following subjects:

code	subject	EC
CIE4140	Structural Dynamics	4
CIE4308	Sediment Dynamics	3
CIE4330	Ports and Waterways 1	4
CIE4367-16	Design of Embankments	3
CIE4390	Geo Risk Management	3
CIE4395	Risk and variability in Geo-Engineering	4
CIE4460	Polders and Flood Control	4
CIE5308	Breakwaters and Closure Dams	4
CIE5311	River Dynamics 2	4
CIE5313-18	Hydraulic Structures 2	4
CIE5401	GIS & Remote Sensing for Water Resources	3
WI4052	Risk Analysis	6

[3] Not for students who passed CTB3390 or an equivalent course

4. The track-related elective courses

Students of the MSc track Hydraulic Engineering need to complete - depending on their specialisation - a total of 56 track-related ECs by choosing **from the courses in the previous chapter or from the list below**:

code	subject	EC
CIE4120	Information Systems for the Construction Industry	4
CIE4145-09[4]	Dynamics and Introduction to Continuum Mechanics	4
CIE4160	Prestressed Concrete	4
CIE4180	Plates and Slabs	4
CIE4190	Analysis of Slender Structures	4
CIE4301	Building with Nature in Hydraulic Engineering	5
CIE4361	Behaviour of Soils and Rocks	6
CIE4362	Soil-Structure Interaction	3
CIE4363	Deep Excavations	4
CIE4367-16	Design of Embankments	3
CIE4400	Environmental Modelling	4
CIE4381	Engineering Asset Management	4
CIE4760	Assessment of Transport Infrastructure and Systems	6
CIE5304	Waterpower Engineering	3
CIE5305	Bored and Immersed Tunnels	4
CIE5318	Fieldwork Hydraulic Engineering	4
CIE5450	Hydrology of Catchments, Rivers and Deltas	4
CIE5580-19	Ecology and Morphodynamics in Catchments	5
OE44030	Offshore Geotechnical Engineering	4
OE44055	Load Identification and Monitoring of Structures	4
OE44115	Arctic Engineering	4

Other courses than the ones listed for the specialisation part may be acknowledged as an elective only after consultation with and explicit approval of the chair of the graduation committee. In the case of non-TU Delft courses approval of the curriculum coordinator (masterHE-CEG@tudelft.nl) and the Board of Examiners (BoardofExaminers-CEG@tudelft.nl) is required.

Please note that each specialisation has a list of recommended track-related elective courses[5]:

Code	Subject	EC	Q	CE	RE	DE	PW	EFM	HS	FR
CIE3109-09	Structural Mechanics 4	4	3						[6]	
CIE3150	Concrete Structures 2	4	3						[7]	
CIE4140	Structural Dynamics	4	3							R
CIE4160	Prestressed Concrete	4	4						R	
CIE4170	Construction Technology of Civil Engineering Structures	4	4							
CIE4301	Building with Nature in Hydraulic Engineering	5	4	R	R	R				
CIE4308	Sediment Dynamics	3	4	R	R	R		R		R
CIE4309	Coastal Dynamics 2	5	4				R	R		

[4] For foreign students only

[5] For each course the number of EC's is mentioned, the educational period in which they are scheduled (column 'Q') and the specialisations for which they are compulsory (blue box) or recommended (R). A course that is compulsory for one specialisation may serve as an elective for another.

[6] Not if CTB3330 has been completed in the Bachelor's phase.

[7] Not if CTB3335 has been completed in the Bachelor's phase

Code	Subject	EC	Q	CE	RE	DE	PW	EFM	HS	FR
CIE4330	Ports and Waterways 1	4	1,2							R
CIE4340	Computational Modelling of Flow and Transport	4	1,2			R				
CIE4361	Behaviour of Soils and Rocks	6	2							
CIE4362	Soil-Structure Interaction	3	4							
CIE4363	Deep Excavations	4	1						R	
CIE4367-16	Design of Embankments	3	3	R						R
CIE4390	Geo Risk Management	3	2							R
CIE4395	Risk and variability in Geo-Engineering	4	4							R
CIE4400	Environmental Modelling	4	4		R		R	R		
CIE4420	Principles of Geohydrology	4	3							[8]
CIE4460	Polders and Flood Control	4	4							R
CIE4760	Infrastructure Projects: Assessment and Planning	6	2				R			
CIE5260	Structural Response to Earthquakes	4	1							
CIE5300	Dredging Technology	4	1	R						
CIE5305	Bored and Immersed Tunnels	4	1						R	
CIE5306	Ports and Waterways 2	4	4							
CIE5308	Breakwaters and Closure Dams	4	3			R	R	R	R	R
CIE5310	Probabilistic Design in Hydraulic Engineering	3	4						R	
CIE5311	River Dynamics 2	4	2	R				R		R
CIE5312	Turbulence in Hydraulics	3	3		R	R				
CIE5313-18	Hydraulic Structures 2	4	4							R
CIE5314-19	Flood Defences	4	4						R	
CIE5315	Computational Hydraulics	3	4							
CIE5325	Coastal and Basin-scale Physical Oceanography	6	2				R			
CIE5318	Fieldwork Hydraulic Engineering	4	1	R						
CIE5401	GIS & Remote Sensing for Water Resources	3	3							R
CIE5450	Hydrology of Catchments, Rivers and Deltas	4	2		R					
CIE5580-19	Ecology and Morphology in Catchments	5	4		R			R		
WI4052	Risk analysis	6	1,2							R
OE44035	Dredging Pumps and Slurry Transport	4	3							
	Number of recommended courses			**6**	**6**	**6**	**6**	**6**	**6**	**12**

Please note that depending on your BSc programme you may not be allowed to include some courses in your MSc programme. This occurs, for instance, if a (similar) course has been chosen as an elective in the BSc.

[8] Not for students who passed CTB3390 or an equivalent course

5. The ‘special subjects’

For the ‘special subjects’ in the MSc track Hydraulic Engineering one should select a set that sums up to 20EC. Options are

1. Internship (CIE4040-09, 10EC) + 10EC of Extra Courses
2. Additional graduation work or research project (CIE5050-09, 10 EC) + 10EC of Extra Courses
3. Multidisciplinary project or Civil Engineering consultancy project (CIE4061-09, 10EC) + 10EC of Extra Courses
4. 20EC of Extra Courses
5. Annotations

If you have a HBO BSc Civil Engineering degree we do not recommend to choose an internship, as it has been part of your previous education substantially.

5.1. Internship

Information about the Internship (CIE4040-09, 10EC) can be found on Brightspace “CIE4040-09 Internship”. For additional information you can contact the Hydraulic Engineering internship coordinator Dr Mark Voorendt (email m.z.voorendt@tudelft.nl). It is your responsibility to find a university advisor (i.e., a member of the scientific staff of the department).

5.2. Multidisciplinary project or Civil Engineering consultancy project

The multidisciplinary project or Civil Engineering consultancy project (CIE4061-09, 10EC) is consulting-type engineering design or analysis carried out by a team of 4 to 6 students. A few available projects can be found on Brightspace "CIE4061-09 Multidisciplinary Project, Civil Engineering Consultancy Project" or “Master Hydraulic Engineering”, and you are welcome to propose a project. Both domestic and foreign projects are allowed. To ensure an appropriate start of the project, at the moment you start looking for a project you will need to consult the coordinator for Civil Engineering consultancy projects Dr Jeremy Bricker (room 3.96, e-mail j.d.bricker@tudelft.nl). Please note that the preparation time for a foreign project is quite long and that doing a Civil Engineering consultancy project in Q1 implies that you will have to start preparing in January of the preceding academic year.

5.3. Additional graduation work or research project

Additional graduation work or research project (CIE5050-09, 10EC) can be carried out either at Delft University of Technology or elsewhere. Although the project may or may not have a relation with the MSc Thesis, it is a separate project and it is assessed separately. Topics may be suggested by students, companies, department staff, etcetera. The additional graduation work or research project is always assessed and graded by staff members. Additional information can be found on Brightspace "CIE5050-09 Additional Graduation Work or Research Project".

5.4. Extra courses

The option 'extra courses', a set of courses of 10EC or 20EC, includes courses from the MSc programme Civil Engineering or MSc courses from other faculties and universities (Section 7.1). Restrictions apply to courses on non-technical subjects. Language or skills-related courses, for instance, cannot be included. If you have doubts, please check with the curriculum coordinator (masterHE-CEG@tudelft.nl) whether restrictions apply to a specific course that you are considering.

If you choose for '20EC of Extra Courses', 10EC of the 20EC need to be related to the MSc program Civil Engineering. The other 10EC need to be courses of MSc level, yet restrictions apply to courses on non-technical subjects. Again: language and skills-related courses are not allowed.

5.5. Annotations

You can also use the option of 'Special Subjects' for completing an Annotation or you can choose to earn an annotation in addition to your Master programme. Annotations are meant to broaden the scope of your MSc programme by including a subject that is of added value to your specialisation. The compulsory courses of the annotations are often part of the track-related elective courses.

A special certificate will be issued if conditions are met. Conditions vary per annotation and usually require to deepen your knowledge on the subject by studying a set of additional electives, a focus course together with all other students of Delft University of Technology taking the same annotation and a focus on the chosen subject in the thesis. This option may be very interesting if you are following the honours programme.

The following annotations can be chosen:

1. Technology in Sustainable Development
2. Entrepreneurship
3. Integral Design Management
4. Railway Systems
5. Dynamics of Structures

Detailed information on these annotations can be found on https://www.tudelft.nl/studenten/faculteiten/citg-studentenportal/onderwijs/master/annotations/.

6. The MSc thesis project

6.1. Introduction

An important part of the MSc programme is the MSc thesis project (CIE5060-09, 40EC). You can find detailed information about the MSc thesis project and the graduation procedures in the "Guidelines Graduation Thesis MSc HE" on Brightspace "Master Hydraulic Engineering". It explains formalities, procedural aspects, the project outline, supervision and assessment, etcetera, in detail. We strongly recommend you to get acquainted with these guidelines in an early stage of your MSc programme.

6.2. Start of the project

According to the Implementation Regulations of the MSc programme Civil Engineering, you can start the MSc thesis project only after having completed at least 65EC of the MSc programme. You will then get permission from the Central Student Administration to start with the MSc thesis project. To this end you will need to fill in and submit the form 'Application Start MSc Thesis Project (CIE-1)'. We recommend, however, to start with your MSc thesis project at a later time, preferably when you have completed your special subjects and (nearly) all courses.

6.3. MSc thesis subjects

You can find available subjects for MSc theses on Brightspace "Master Hydraulic Engineering". We advise to attend MSc presentations and read some recent MSc theses (see the Repository) to understand better what an MSc thesis project entails. In addition, you can share your experiences during meetings of the Master Community Hydraulic Engineering, organised by the the Hydraulic Engineering student association (Waterbouwdispuut, www.waterbouwsdispuut.nl).

6.4. Third party involvement

Sometimes you can carry out your MSc thesis project at a company or institute. This is open only to selected students and therefore it requires *a priori* permission from the chairman of the MSc Thesis Assessment Committee. Whether or not permission is granted depends on the student's performance as appears from a complete and recent list of marks (Osiris output). The student submits this list to the course selection coordinator who, in turn, will issue an advice to the chairman of the committee.

Note that also MSc thesis subjects suggested by a company or institute always require prior approval from the chairman of the MSc Thesis Assessment Committee. When the subject is suggested to you directly by the company, it is good to verify whether the subject will be acceptable from an academic point of view. Therefore discuss the subject in advance with the foreseen chairman of the Committee or daily advisor at Delft University of Technology.

For students that want to carry out the MSc thesis project at a company or institute, there is a new procedure to hand in the obligatory TU Delft Graduation Agreement. Please carefully read the information provided here.

Please note that subjects including permanent confidentiality are typically unacceptable, also see the paragraph on confidential subjects on Brightspace “Master Hydraulic Engineering”.

7. Programme extensions

7.1. Visiting other universities

Every student has the possibility to attend courses at another Dutch university, in principle without extra costs. For example, University of Utrecht offers courses related to the physics of coastal and river systems, and Wageningen University offers courses related to international land and water management, environmental sciences, and climate studies. However, depending on the subject some courses qualify only as 'extra courses' under the 'special subjects'.

Another, more adventurous option, is to visit a foreign university. It broadens your perspective and may add to achieving specific learning aims. On the other hand, it nearly always delays finalizing your MSc study. If you consider spending a period abroad we advise you to draw up, in advance, a time schedule for your entire MSc programme to assess the associated pros and cons. Points of interest are the facts that the level of education at foreign universities may deviate from the one in Delft and the course content may be focused on local circumstances (natural conditions, regulations, and legislation). For further information we refer you to the website www.tudelft.nl (Student Portal, Studying Abroad) and to the guide "Study Abroad", issued by the student association of the faculty of Civil Engineering, 'Praktische Studie'.

7.2. Double degrees and double tracks

To some extent it is possible to combine two full MSc programmes into one so-named Double Degree Programme, leading to two diplomas. Such programmes are tailor-made. They comprise courses and projects up to at least 176EC. In a similar fashion it is possible to combine two tracks within the same MSc programme. This latter option leads to a single diploma mentioning both tracks. The 176EC consist of:

- 4 or 5EC covering an Ethics course;
- 56EC of compulsory track-related courses of track/programme 1;
- 56EC of compulsory track-related courses of track/programme 2;
- 20EC of 'special subjects';
- 40EC on MSc thesis project covering both tracks/programmes.

Please contact the curriculum coordinator for further information.

8. Contact information

The table below contains contact information for the educational coordinators of the MSc track Hydraulic Engineering:

contact	email	office
Coordinator HE Curriculum		
Dr ir Astrid Blom	**masterHE-CEG@tudelft.nl**	**S3.00.100**
Coordinator HE Information, Events, and Education		
Ir Carolina Piccoli	**c.piccoli@tudelft.nl**	**23.HG 3.66**
Coordinator HE International Intake		
Dr Robert Lanzafame	**r.c.lanzafame@tudelft.nl**	**23.HG 3.76**
Coordinator Multidisciplinary Project		
Dr Jeremy Bricker	**j.d.bricker@tudelft.nl**	**23.HG 3.96**
Coordinator HE Internship		
Dr ing Mark Voorendt	**m.z.voorendt@tudelft.nl**	**23.HG 3.76**

Some important remarks:

- When in doubt about whom to contact, please contact Coordinator HE Information, Events, and Education first (Carolina Piccoli, c.piccoli@tudelft.nl).
- Please use the following email address for submission of your CIE2 form: CIE-2-HE-CEG@tudelft.nl.
- For requests regarding exceptions to the procedure described in this brochure, please contact the Board of Examiners (BoardofExaminers-CEG@tudelft.nl).