Implementation Regulations CER HZ

Bachelor CIVIL ENGINEERING

Full-time

CROHO 34279

2023-2024



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CHAPTER 1 GENERAL PROVISIONS

1.1 <u>General</u>

- 1.1.1 The HZ Course and Examination Regulations Bachelor programme full-time (hereinafter: CER HZ) cover the core of education within the HZ. This document provides a general overview of all programmes taught at the HZ. The CER HZ contains institution-specific provisions i.e., those that apply to the entire HZ. A programme-specific CER HZ Implementation Regulation (hereinafter: Implementation Regulation) is determined for each programme by the executive board each year.
- 1.1.2 The HZ Course and Examination Regulations Bachelor programme full-time applies to this HZ CER Implementation Regulation Bachelor programme full-time.
- 1.1.3 The Dutch Higher Education and Research Act (WHW) as well as the CER HZ mention study credits. These Implementation Regulations, in addition to the term credits, also refer to ECTS (European Credits Transfer System), where 1 ECTS is equal to 1 credit and thus a study load of 28 hours (article 7.4 paragraph 1 of WHW).

1.2 Establishment and evaluation

- 1.2.1 The process of establishment and evaluation of this Implementation Regulation is described in article 1.3.4 CER HZ.
- 1.2.2 The programme committee evaluates the manner of implementation of the education and examination regulations and the Implementation Regulations in question every year (article 1.3 CER HZ).

CHAPTER 2 IMPLEMENTATION REGULATIONS HZ CER

2.1 Registration, prior educational requirements, and admission policy

2.1.1 Overview of additional prior educational requirements (article 2.2 and 2.3 CER HZ)

Students with a havo diploma				
Havo profiles:	NT	NG	EM	СМ
Admissible:	٧	wisB + nat	x	x

Students with a v	wo diploma			
Vwo profiles:	NT	NG	EM	СМ
Admissible:	V	nat of nlt	nat	x

2.1.1a Selection criteria Special programme (article 2.2b CER HZ) Not applicable.

2.1.1b Enrolment 180 ECTS track for VWO students (article 2.2a CER HZ)

Anyone who wishes to be admitted to a three-year Degree programme must comply with one of the following educational entry requirements: a) a pre-university education diploma (Dutch: VWO) or b) a diploma deemed by ministerial decree to be at least equivalent, or at least equivalent to it in the opinion of the Executive Board. The Executive Board may also decide to admit another person to a three-year Degree programme than the one meant in the first paragraph if, in the opinion of the Executive Board, they have shown they are suitable for that programme.

2.1.2 Deficiency investigation (article 2.4 CER HZ)

If a student who is not directly admissible wishes to enrol for Civil Engineering, then the student will undergo a deficiency investigation. When enrolling for the Civil Engineering programme, the investigation will consist of mathematics and physics at HAVO level 5.

By the 1st of September of that school year, the student can prove to be qualified by means of certificates proving that the subjects stated have been passed successfully at HAVO level 5 with a minimum score of 5.5. Summer courses in physics and mathematics that can provide the students with the required certificates are offered by HZ. For more information, see https://hz.nl/opleidingen/natuurkunde and https://hz.nl/opleidingen/wiskunde.

2.2 Programme and education structure

2.2.1 Programme profile (article 3.2 CER HZ)

Civil engineering is a very broad field, with many different job opportunities and specializations. The HZ Civil Engineering study programme trains Bachelor's engineers with a broad overview about the professional field and its possible specializations. As a result of this wide-ranging training, graduates have secured positions in various engineering companies - such as Arup, Boskalis, BAM, van Oord Offshore and Balfour Beatty - as Project engineers, Designers, Contractors, etc. In several cases, students have decided to pursue a Master's degree in the Netherlands or abroad. The Civil Engineering study programme prepares highly versatile engineers who are directly able to apply their knowledge and skills in real-life situations, with a special focus on safety and sustainability goals. From the cohort 2017-2018, for both the four years programme and the three year programme, the Civil engineering programme is based on the learning outcomes of the built environment domain as set out in the book "Building together and making room for the future" (Hoger onderwijs groep Bouw & Ruimte, 2015)¹.

From 2015, the national set of learning outcomes has nine competences, coupled with ten focus areas that apply to all programmes within the built environment domain. The nine competencies formulated for the domain are divided into two categories: professional competencies (1-6) and general HBO competencies (7-9). The six professional competencies refer to the so-called design, creation and maintenance process, where the generic HBO skills are important in each stage. This concerns the competencies of (1) Initiating and controlling, (2) Design, (3) Specifying, (4) Realizing, (5) Management and (6) Monitoring, testing and evaluating. The generic HBO competencies are (7) Research, (8) Communication and collaboration and (9) Management and innovation. The programme has broken down the professional competencies into subtasks and general learning goals.

The subtasks and corresponding learning goals are the basis of the competences breakdown matrix. The Civil Engineering programme ensures that the coverage of the competences is completely achieved during the programme.

The Civil Engineering programme tries to offer a variety of subjects of specialization, related to the focus areas: (1) Spatial planning and design, (2) Water, soil and environment, (3) Infrastructure and mobility (4) Building and technology, (8) Applied research, (9) Communication, and (10) Management and organization. Within the national profile, the Dublin descriptors are used as a point of departure. This means that if a student has the competencies, (s)he meets the Dublin descriptors. The same procedure is used for other standards (such as those of ENAEE, NVAO and the Colleges Association). Three levels of competency are distinguished within the profile. These three levels are defined based on three aspects: task, context and degree of independence. The definition of the various levels is recorded in the book "Building together and making room for the future" (Hoger onderwijs groep Bouw & Ruimte, 2015).

¹ Hoger onderwijs groep Bouw & Ruimte (2015). *Samen bouwen en ruimte geven aan de toekomst. Eindkwalificaties domein built environment.*

Implementation Regulations CER HZ Bachelor program Civil Engineering – full-time Approval study program committee: 24/04/2023. Approval University Council: 04/07/2023. Established by the executive board: 04/07/2023.

2.2.2 Learning outcomes (article 3.2 CER HZ)

	iting unu t	directing
1.1		s analysis: understanding the situation
	, 1.1.1	Describe the Civil Engineering work field and professions.
	1.1.2	Detect current challenges with relevant stakeholders, by exploiting system thinking and a wide
		market orientation.
	1.1.3	Know and explain the basic properties and behaviour of building materials like concrete, steel, wood
		and masonry.
	1.1.4	Understand the hydrological/water cycle and water resources, in order to carry out rainfall-runoff
		analysis, hydrological modelling and hydrometry.
	1.1.5	Understand the basic theory regarding shear stresses, slope stability and ground water flow and app it to simple soil mechanical problems.
	1.1.6	Understand the basic elements and principles of road design.
	1.1.7	Understand the basic principles of concrete design.
	1.1.8	Understand fundamental processes/concepts needed for a sustainable living environment as materi
	1.1.0	separation in waste processing, air pollution and water pollution.
	1.1.9	Understand the basic principles behind the selection of a foundation system.
	1.1.10	Understand the basic principles beinte the selection of a roundation system.
	1.1.10	
	1 1 1 1	aspects operating on a road.
	1.1.11	Understanding an explaining cartography, geodesy, satellite geodesy, topography, and draw 3D
	4 4 4 2	elements in AutoCAD.
	1.1.12	Consider the system requirements in terms of technical engineering constraints, management
		possibilities and water users, based on the acquired knowledge i.e. water in soil, salinity control and
		seepage, etc.
	1.1.13	Understand the basic principles of steel structural design.
	1.1.14	Understand the basics of flexible retaining structures.
	1.1.15	Understand the coastal processes, such as erosion and accretion, and the causes like tides and wave
		The safety assessment of the Dutch coast and the programs regarding this safety can be elaborated.
	1.1.16	Explain the (waste)water treatment units and consider the water supply network components their
		maintenance and asset management. Perform the hydraulic design of the most common treatment
		units.
	1.1.17	Understand the elements included in the preliminary phases of the project life cycle, such as
		contracting, project evaluation, delivery methods, etc.
	1.1.18	Explain what the most important failure mechanisms of dikes are and how to prevent failure.
	1.1.19	Understand the dredging world and its characteristics in connection with environment and ecology.
	1.1.20	Understand the elements included in the life cycle of a civil engineering project, starting from the design phase until the project close out.
	1.1.21	Learn, detect, identify, analyze and validate with relevant stakeholders, based on a helicopter
		perspective, systems thinking and a wide market orientation, socially relevant (project) assignments
		and challenges.
1.2	Defining	g programme requirements
	1.2.1	Make an overview of the boundary conditions and requirements by talking to the clients and
		stakeholders and by analyzing regulations / legislation.
	1.2.2	Define (pre-) conditions, requirements, wishes and shared ambitions and vision, aimed at creating
		broad-based improvements and solutions.
1.3	Describ	ing, monitoring and adjusting
	1.3.1	Monitor and adjust the process of project initiation by peer-reviewing your team members and by
	1.0.1	reflecting on your personal performance.
	1.3.2	Describe, monitor and adjust/control the process.
	1.3.3	Analyze, structure, validate, enrich (theory development), report and share (existing and new)
	1.5.5	findings obtained by applying systems thinking.
	1.3.4	Communicate appropriately and handle the situation based on appropriate (ethical) codes of
	1.3.4	conduct
Docid	ning	
Desig		sing a colution bacad on sustance this ling and programme requirements
2.1		ping a solution based on systems thinking and programme requirements
	2.1.1	Design a general layout by working out several variants, taking into account the preconditions,
		requirements, and stakeholders' wishes.
	2.1.2	Develop and validate, in collaboration and alignment with stakeholders, a design (a project or
		research plan, a model, advice, spatial or technical design, a solution) based on programme
		requirements by working out several variants.
	Croating	g different solutions
2.2		
2.2	2.2.1	Examine the (design) variants and make a deliberate and validated selection of the most suitable.
2.2		

3.1	fying Specifyi	ng and detailing
	3.1.1	Apply mathematical and physical knowledge and skills to obtain the required calculation level for civ
		engineering professionals
-	3.1.2	Determine the distribution of internal forces in statically determined beams
	3.1.3	Apply the basic properties of fluids and governing laws of fluid mechanics focusing on hydrostatics
-	214	and pressure flow, including hydrodynamic modelling.
	3.1.4	Understand the principles and rules of technical civil engineering drawings, both considering hand drawings and AutoCAD drawings.
H	3.1.5	Determine the distribution of internal stresses in statically determined beams.
ŀ	3.1.6	Apply the basic properties of fluids and governing laws of fluid mechanics focusing on open channel
	5.1.0	flow, including hydrodynamic modelling and identifying elements of sewerage networks.
F	3.1.7	Identify the basic material properties of soil and use them to calculate vertical earth pressures,
		settlements, including the incorporation of consolidation.
	3.1.8	Calculate loads and combinations, determine distribution of internal forces in hinged structures and
		trusses, and calculate torsion in simple structures.
	3.1.9	Execute a (part of) detailed design of parts of your civil engineering objects using a systematic
		approach complying with environmental regulations: manual calculations, software modelling,
-	2 1 10	detailed drawings, etc.
	3.1.10	Design an irrigation and drainage system in a rural area balancing water supply and water requirements in time and space.
ŀ	3.1.11	Calculate the lateral earth pressures and check the design and construction of shallow and deep
	5.1.11	(pile) foundations and rigid retaining structures.
ŀ	3.1.12	Design the layout of a simple road.
ŀ	3.1.12	Calculate basic bending reinforcement of statically determined concrete structures and draw the
	012120	dimension drawings.
l l	3.1.14	Calculate the lateral earth pressures and check the design and construction of various types of
		flexible earth retaining structures.
	3.1.15	Detail the layout of a simple road.
	3.1.16	Determine dimensions of simple steel structures when considering strength (cross-section resistance
	3.1.18	Design a water distribution network and analyse the performance of the system under diverse syste
		conditions using a hydrodynamic computer model (EPANET). Solve hydraulic iterative-based problem
-		using Matlab
-	3.1.19	Determine dimensions of simple steel structures when considering strength, stability and stiffness.
	3.1.20	Design and calculate hard coastal defence structures like a dike profile with different types of
-	2 1 21	revetment, taking the environment and climate change into account. Determine deformation and distribution of internal forces in statically indeterminate structures.
ŀ	3.1.21	
	3.1.22	Calculate (the reinforcement and foundation of) permanent underground concrete structures. Understand and explain the fundamental design considerations and the close relationship between
		design, construction, and maintenance of these structures.
l l	3.1.23	Understand and explain the fundamental design principles of temporary works of construction pits.
		Understand the close relationship between their design and construction.
	3.1.24	Explain spreading of concentrated loads in soil and concrete structures and interpret the impact of
		isotropic and orthotropic material behaviour.
	3.1.25	Understand and explain the fundamental design principles of hydraulic structures. Understand the
L		close relationship between their design, construction, and maintenance.
	3.1.26	Specifying and detailing the proposed design. You specify goals, (pre-) conditions and feasibility of the
		project, such that it directs and shapes development of the product. Based on the programme
		requirements, including required levels of quality and relevance, you further specify a selected
-	3.1.27	design(s). Calculate basic shear reinforcement and draw the bending and shear reinforcement of statically
	5.1.27	determined concrete structures.
ŀ	3.1.28	Programming mathematical formulas in Excel for applications in civil engineering.
Realiz		
4.1	Realizin	g
	4.1.1	Investigate management and maintenance procedures for assets using your knowledge about
		construction materials and methods.
	4.1.2	Set up and carry out practical experiments and tests.
	4.1.3	Make a plan for the realization.
	4.1.4	Plan the dredging project from the pre-tendering phase to the tendering phase, suggesting the mos
		suitable contract depending on the project conditions.
	4.1.5	Make a plan for the building process, schedule, safety, work plan, cost estimation, construction site
		planning, quality control.
La contra de la co	4.1.6	Advise the owner of assets on management and maintenance by using your knowledge about
Ē		
		construction materials and methods.
Maint 5.1	taining Maintai	

		5.1.2	Know and clarify the most common types and causes of the deterioration of concrete and steel in civil assets.					
		5.1.3	Know and identify often-used rehabilitation measures to renovate various types of civil assets.					
		5.1.4 Understand and explain the principles and thinking approach of asset management.						
		5.1.5	Apply and evaluate such principles to a concept asset-management plan (qualitative) for a civil asset.					
		5.1.6	Devise a quantitative life/cycle plan for (part of) a civil asset					
6	Mon	toring, assessing and evaluating						
	6.1	Monitoring, assessing and evaluating						
	0.1	6.1.1	Monitor your solution and assess your results based on initial requirements and preconditions.					
		6.1.2	Understand and explain cartography, geodesy, satellite geodesy, topography and draw 3D elements in					
		0.1.2	AutoCAD.					
		6.1.3	Draft a global monitoring plan.					
7	Rese							
´	7.1		able to make a proposal for (applied) research and set up a research project to solve problems in					
	/.1		all situations					
		7.1.1	Formulate a problem statement (which comprises the problem description, research question and					
		/.1.1	objective).					
		712						
		7.1.2 7.1.3	Conduct a literature review.					
		7.1.3	Set up a research project and define it in a research proposal. Develop a problem statement and to conduct a literature review in order to produce a research					
		7.1.4						
	7.2	Veriene	proposal for a professional research project					
	7.2		able to conduct research (or have it conducted), as described in the research proposal, monitor					
			s and quality and make adjustments where necessary					
		7.2.1	Collect the required data and process it accordingly to enable a meaningful interpretation.					
		7.2.2	Monitor the progress and quality of the execution and make adjustments if necessary.					
		7.2.3	Examine the given data and you are able to provide meaningful interpretation, monitoring and					
	7 2	Veriene	adjusting your process when needed able to interpret data and draw conclusions regarding the research question. Additionally, you are able					
	7.3							
		7.3.1	ate and report results and process Ascribe significance to retrieved and processed data.					
		7.3.2						
		7.3.2	Report your research results. Examine and report your results and you are able to discuss them and to elaborate meaningful					
		7.5.5	conclusions					
	7.4	You act	in accordance with the (ethical) code of conduct associated with research					
		7.4.1	Adapt your behaviour to the norms, professional ethics, attitude and responsibilities associated with					
		, <u>+</u>	research.					
		7.4.2	Adapt your behavior to the professional and research environment					
8	Com	municatio	on and collaboration					
	8.1	Commu	inication					
	-	8.1.1	Deliver a report, portfolio and presentation based on given requirements.					
		8.1.2	Communicate efficiently and clearly with your team members and project leader by using written and					
			oral means.					
		8.1.3	Present your products in a professional environment using both written and verbal forms					
		8.1.4	Use 21 st century skills and techniques in order to make your reporting appealing and interesting for					
			your client					
	8.2	Collabo						
		8.2.1	Collaborate in your group as a junior civil engineering team.					
		8.2.2	Work in a group setting, operating such as a professional working team with responsibilities and roles.					
9	Mana	Management and innovation						
	9.1	Manage	ement					
		9.1.1	Act as an independent professional, performing in your group according to your role.					
		9.1.2	Organize and undertake your task with a professional attitude in accordance with a given					
			level/instructions					
	9.2	Innovat	ion					
		9.2.1	Propose innovative solutions inspired to the literature review and on information coming from the					
			professional market/field.					
		9.2.2	Use your creativity and your personal input to provide innovative results and interpretations to a					
			given task					

These competences were established in April 2015 for the Domain Built Environment. In the table below, these competences are compared with the former ones, adopted by the study program until study year 2016-2017.

Competences until cohort 2016-2017	Competences from cohort 2017-2018
BBE 1 Drawing up a schedule of design requirements	Pt.1 Initiating and directing
BBE 2 Creating and justifying an integral design	Pt.2 Designing
BBE 3 Specifying a design	Pt.3 Specifying
BBE 4 Managing and monitoring the implementation process	Pt.4 Realizing
BBE 5 Implementing a management plan	Pt.5 Maintaining Pt.6 Monitoring, assessing and evaluating

The subtasks for the former competences are summarized in the table below.

Descripti	on of t	he professional competences of the study programme until cohort 2016-2017:	
1	BBE 1 Drawing up a schedule of design requirements		
	1.1	CiE 1 Drawing up a programme of requirements and design	
2	BBE 2 Creating and justifying an integral design		
	2.1	CiE 2 Drawing up alternatives and variations	
	2.2	CiE 3 Assessing and choosing alternatives and variations	
3	BBE 3	Specifying a design	
	3.1	CiE 4 Detailing, calculating and drawing	
	3.2	CiE 5 Drawing up contract documents	
	3.3	CiE 6 Drawing up a budget	
4	BBE 4 Managing and monitoring the implementation process		
	4.1	CiE 7 Drawing up the implementation plan	
	4.2 CiE 8 Drawing up a schedule		
	4.3 CiE 9 Describing project-based quality description		
	4.4	CiE 10 Managing a construction site	
	4.5	CiE 11 Supervising	
5	BBE 5	i Implementing a management plan	
	5.1	CiE 12 Drawing up a plan for management and maintenance of infrastructure	

2.2.3 Programme structure (article 3.3 CER HZ)

National name:	B Civiele Techniek
International name:	B Civil Engineering
Orientation:	Bachelor HBO
Title conferred:	Bachelor of Science (BSc)
Programme duration:	240 study credits (ECTS)
Course workload 'propaedeutic' phase:	60 study credits (ECTS)
Conclusion with 'propaedeutic'	Yes
examination:	
Course workload main phase:	180 study credits (ECTS)
Variant:	Full-time
ISAT code:	34279
Location:	Middelburg
Language:	Dutch/English
Effective date:	29-06-2018
Submission date	01-11-2025
Joint degree programme:	Not applicable
180 ECTS fast track:	Yes

2.2.3a Programme schedule

		Course code	Course name	E	Cs
		CU20596V1	Introduction CE	2,5	
		CU79090V1	Construction Materials 1	2,5	
	Block 1	CU20598V1	Mathematics & Physics	2,5	15,0
		CU20600V1	Fluid mechanics 1	2,5	
		CU26000V2	Exploring Civil Engineering - Project & Professional Skills 1	5,0	
		VCCU06284	HZ personality CE 0	1,25	
		VCCU06283V6	VCA	1,25	1
se)		CU20604V1	Fluid mechanics 2	2,5	45.0
has	Block 2	CU79091V1	Construction Materials 2	2,5	15,0
сp		CU20602V1	Mathematics 1	2,5	
eut		CU20603V3	Exploring Civil Engineering - Project & Professional Skills 2	5,0	1
ede		CU20605V1	Soil Mechanics 1	2,5	
edc		CU20613V1	Mathematics 2	2,5	
(Pro	Block 3	CU79092V1	Applied Mechanics 1	2,5	12,5
Ę.		CU20607V4	Sustainability and circularity in Civil Engineering - Project &	5,0	,-
Year 1 (Propaedeutic phase)		002000771	Professional Skills 3	3,0	
~		CU20608V1	Hydrology	2,5	
		CU20609V1	Soil Mechanics 2	2,5	-
	Block 4	CU79093V1	Applied Mechanics 2	2,5	12,5
	DIUCK 4	CU20612V4	Sustainability and circularity in Civil Engineering - Project &	5,0	12,5
		02001204	Professional Skills 4	5,0	
		EN120204 EN120202		5.0	5.0
	Block 1-4	EN39001 or EN39002 or	English B1 or English B2 or English C1 or English C2	5,0	5,0
		EN39003 or EN39004			
		CU23856	Transport Infrastructure 1	2,5	4
		CU23857	Structural Engineering 1	2,5	
		CU23875	Environmental Engineering	2,5	
	Block 1	CU23859	Foundations 1	2,5	15,0
		CU206001	HZ personality CE 1	1,25	
		CU23860V2	Inland infrastructure development - Project & Professional Skills	3,75	
			5		
		CU23861	Transport Infrastructure 2	2,5	
		CU23874	Structural Engineering 2	2,5	
		CU23858	Rural Water Management	2,5	
	Block 2	CU23876	Foundations 2	2,5	15,0
		CU206002	HZ personality CE 2	1,25	
Year 2		CU23877V3	Inland infrastructure development - Project & Professional Skills	3,75	
ſea			6		
		CU23878	Coastal Engineering 1	2,5	
		CU23879	Structural Engineering 3	2,5	1
		CU23880	Water supply and Sanitation	2,5	45.0
	Block 3	CU23881	Project Management 1	2,5	15,0
		CU206003	HZ personality CE 3	1,25	
		CU23882V2	Coastal zone development - Project & Professional Skills 7	3,75	1
		CU23883	Coastal Engineering 2	2,5	1
		CU79094V1	Applied Mechanics 3	2,5	1
		CU23885	Dredging and Ecology	2,5	1
	Block 4	CU23886V1	Project Management 2	2,5	15,0
					-
		CU206004	HZ personality CE 4	1,25	-
		CU23887V3	Coastal zone development - Project & Professional Skills 8	3,75	
Υ3	S1 or S2	Various	Minor	30,0	30,0
<u>_</u>	S1 or S2	CU11122	Orientation Internship	30,0	30,0
		CU79085V2	Coastal Challenge	10,0	
		CU79086V1 or	Advanced Construction Engineering or	10,0	
		CU79087V1	Urban Water Management		
ar 4	S1	CU79086V1 or	Advanced Construction Engineering or	10,0	30,0
Year 4		CU79087V1 or	Urban Water Management or		1
-		CU20700V1 or	Advanced Water Technology or		
		CU75044V1 + CU75043V1	Change yes we can + Making Business Intelligent		1
	S2	CU11021V1	Final Thesis	30,0	30,0

Three yea	r VWO	programme	2023-2024
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		Course code	Course name	E	Cs
		CU20596V1	Introduction CE	2,5	_
		CU79090V1	Construction Materials 1	2,5	
	Block 1	CU20598V1	Mathematics & Physics	2,5	15,0
		CU20600V1	Fluid mechanics 1	2,5	
		CU26000V2	Exploring Civil Engineering - Project & Professional Skills 1	5,0	
Γ		VCCU06284	HZ personality CE 0	1,25	
		VCCU06283V6	VCA	1,25	
se)		CU20604V1	Fluid mechanics 2	2,5	45.0
ha	Block 2	CU79091V1	Construction Materials 2	2,5	15,0
icp		CU20602V1	Mathematics 1	2,5	
eut		CU20603V3	Exploring Civil Engineering - Project & Professional Skills 2	5,0	
led		CU20605V1	Soil Mechanics 1	2,5	
edc		CU20613V1	Mathematics 2	2,5	
(Pro	Block 3	CU79092V1	Applied Mechanics 1	2,5	12,5
Year 1 (Propaedeutic phase)		CU20607V4	Sustainability and circularity in Civil Engineering - Project & Professional Skills 3	5,0	
		CU20608V1	Hydrology	2,5	
		CU20609V1	Soil Mechanics 2	2,5	1
	Block 4	CU79093V1	Applied Mechanics 2	2,5	12,5
	2.000 4	CU20612V4	Sustainability and circularity in Civil Engineering - Project &	5,0	1 2,5
-			Professional Skills 4	-	
	Block 1-4	EN39001 or EN39002 or EN39003 or EN39004	English B1 or English B2 or English C1 or English C2	5,0	5,0
		CU23856	Transport Infrastructure 1	2,5	
		CU23857	Structural Engineering 1	2,5	
		CU23875	Environmental Engineering	2,5	
	Block 1	CU23859	Foundations 1	2,5	15,0
		CU206001	HZ personality CE 1	1,25	
		CU23860V2	Inland infrastructure development - Project & Professional Skills 5	3,75	
Ē		CU23861	Transport Infrastructure 2	2,5	
		CU23874	Structural Engineering 2	2,5	
		CU23858	Rural Water Management	2,5	
	Block 2	CU23876	Foundations 2	2,5	15,0
		CU206002	HZ personality CE 2	1,25	/-
Year 2		CU23877V3	Inland infrastructure development - Project & Professional Skills 6	3,75	
~		CU23878	Coastal Engineering 1	2,5	-
		CU23879	Structural Engineering 3	2,5	1
		CU23880	Water supply and Sanitation	2,5	1
	Block 3	CU23881	Project Management 1	2,5	15,0
		CU206003	HZ personality CE 3	1,25	-
		CU23882V2	Coastal zone development - Project & Professional Skills 7	3,75	1
ŀ		CU23883	Coastal Engineering 2	2,5	
		CU79094V1	Applied Mechanics 3	2,5	1
		CU23885	Dredging and Ecology	2,5	-
	Block 4	CU23885 CU238863	Project Management 2 3yt	2,5	15,0
		CU206004	HZ personality CE 4	1,25	-
				-	-
		CU23887V3	Coastal zone development - Project & Professional Skills 8	3,75	+
		CU79085V2	Coastal Challenge	10,0	-
		CU79086V1 or	Advanced Construction Engineering or	10,0	
m	<u>.</u>	CU79087V1	Urban Water Management		
Year 3	S1	CU79086V1 or	Advanced Construction Engineering or	10,0	30,0
Ye		CU79087V1 or	Urban Water Management or		
		CU20700V1 or	Advanced Water Technology or		
		CU75044V1 + CU75043V1	Change yes we can + Making Business Intelligent	l I	1
ŀ	S2	CU11021V1	Final Thesis	30,0	30,0

		Course code	Course name	E	Cs
		CU20596V1	Introduction CE	2,5	
		CU79090V1	Construction Materials 1	2,5	
	Block 1	CU20598V1	Mathematics & Physics	2,5	15,0
		CU20600V1	Fluid mechanics 1	2,5	
		CU26000V2	Exploring Civil Engineering - Project & Professional Skills 1	5,0	
		VCCU06284	HZ personality CE 0	1,25	
		VCCU06283V6	VCA	1,25	
(ə		CU20604V1	Fluid mechanics 2	2,5	
has	Block 2	CU79091V1	Construction Materials 2	2,5	15,0
c p		CU20602V1	Mathematics 1	2,5	-
Year 1 (Propaedeutic phase)		CU20603V3	Exploring Civil Engineering - Project & Professional Skills 2	5,0	1
ede		CU20605V1	Soil Mechanics 1	2,5	
pa		CU20613V1	Mathematics 2	2,5	1
Pro	Block 3	CU79092V1	Applied Mechanics 1	2,5	12,5
-1(Dictive	CU20607V4	Sustainability and circularity in Civil Engineering - Project &	5,0	,0
ear		02000774	Professional Skills 3	5,0	
~		CU20608V1	Hydrology	2,5	
		CU20609V1	Soil Mechanics 2	2,5	-
	Block 4	CU79093V1	Applied Mechanics 2	2,5	12,5
	BIOCK 4	CU20612V4	Sustainability and circularity in Civil Engineering - Project &	5,0	12,5
		02001204	Professional Skills 4	3,0	
		EN20001 -= EN20002 -=	English B1 or English B2 or English C1 or English C2	5.0	5.0
	Block 1-4	EN39001 or EN39002 or	English B1 of English B2 of English C1 of English C2	5,0	5,0
		EN39003 or EN39004			
		CU23856	Transport Infrastructure 1	2,5	-
		CU23857	Structural Engineering 1	2,5	-
		CU23875	Environmental Engineering	2,5	
	Block 1	CU23859	Foundations 1	2,5	15,0
		CU206001	HZ personality CE 1	1,25	-
		CU23860V2	Inland infrastructure development - Project & Professional Skills	3,75	
		01122004	5	2.5	
		CU23861	Transport Infrastructure 2	2,5	-
		CU23874	Structural Engineering 2	2,5	-
		CU23858	Rural Water Management	2,5	45.0
	Block 2	CU23876	Foundations 2	2,5	15,0
		CU206002	HZ personality CE 2	1,25	-
Year 2		CU23877V3	Inland infrastructure development - Project & Professional Skills 6	3,75	
~		CU23878	Coastal Engineering 1	2,5	
		CU23879	Structural Engineering 3	2,5	
		CU23880	Water supply and Sanitation	2,5	1
	Block 3	CU23881	Project Management 1	2,5	15,0
		CU206003	HZ personality CE 3	1,25	1
		CU23882V2	Coastal zone development - Project & Professional Skills 7	3,75	1
		CU23883	Coastal Engineering 2	2,5	
		CU79094V1	Applied Mechanics 3	2,5	-
		CU23885	Dredging and Ecology	2,5	-
	Block 4	CU23886V1	Project Management 2	2,5	15,0
			, ,		-
		CU206004	HZ personality CE 4	1,25	-
		CU23887V3	Coastal zone development - Project & Professional Skills 8	3,75	
γ3 2	S1 or S2	Various	Minor	30,0	30,0
-	S1 or S2	CU11122	Orientation Internship	30,0	30,0
		CU79085V2	Coastal Challenge	10,0	
		CU79086V1 or CU79087V1	Advanced Construction Engineering or Urban Water Management	10,0	
4	S1	CU79086V1 or	Advanced Construction Engineering or	10,0	30,0
Year 4	51	CU79087V1 or	Urban Water Management or	10,0	30,0
7		CU20700V1 or	Advanced Water Technology or		
		CU75044V1 + CU75043V1	Change yes we can + Making Business Intelligent		
	S2	CU11021V1	Final Thesis	30,0	30,0

Three years option (for Associate degree Built Environment diploma)

² Year 3 can be fully exempted upon request (article 3.3 CER HZ).

Implementation Regulations CER HZ Bachelor program Civil Engineering – full-time Approval study program committee: 24/04/2023. Approval University Council: 04/07/2023. Established by the executive board: 04/07/2023.

		Course code	Course name	E	Cs
		CU20605V1	Soil Mechanics 1	2,5	
		CU20613V1	Mathematics 2 Applied Mechanics 1	2,5	
	Block 3	CU79092V1	Soil Mechanics 1	2,5	12,
Year 0		CU20607V4	Sustainability and circularity in Civil Engineering - Project & Professional Skills 3	5,0	
Yea		CU20608V1	Hydrology	2,5	
-		CU20609V1	Soil Mechanics 2 Applied Mechanics 2	2,5	
	Block 4	CU79093V1	Hydrology	2,5	12,
		CU20612V4	Sustainability and circularity in Civil Engineering - Project & Professional Skills 4	5,0	
0-1	Block 1-4	EN39001 or EN39002 or EN39003 or EN39004	English B1 or English B2 or English C1 or English C2	5,0	5,0
		CU20596V1	Introduction CE	2,5	
+		CU79090V1	Construction Materials 1	2,5	
) se	Block 1	CU20598V1	Mathematics & Physics	2,5	15,
oha ihip	5.00.1	CU20600V1	Fluid mechanics 1	2,5	,
tic J		CU26000V2	Exploring Civil Engineering - Project & Professional Skills 1	5,0	
nte -		VCCU06284	HZ personality CE 0	1,25	
aec on l		VCCU06283V6	VCA	1,25	1
op atic		CU20604V1	Fluid mechanics 2	2,5	1
Year 1 (Propaedeutic phase Orientation Internship)	Block 2	CU79091V1	Construction Materials 2	2,5	15,
ar 1 Ori		CU20602V1	Mathematics 1	2,5	
Ye		CU20603V3	Exploring Civil Engineering - Project & Professional Skills 2	5,0	
F	S2	CU11122	Orientation Internship	30,0	30,
	52	CU23856	Transport Infrastructure 1	2,5	50,
		CU23857	Structural Engineering 1	2,5	
		CU23875	Environmental Engineering	2,5	
	Block 1	CU23859	Foundations 1	2,5	15,
	DIOCK I	CU206001	HZ personality CE 1	1,25	13,
		CU23860V2	Inland infrastructure development - Project & Professional Skills	3,75	
-		CU23861	Transport Infrastructure 2	2,5	
		CU23874	Structural Engineering 2	2,5	
		CU23858	Rural Water Management	2,5	-
	Block 2	CU23876	Foundations 2	2,5	15,0
	Dioek 2	CU206002	HZ personality CE 2	1,25	- 10,
Year 2		CU23877V3	Inland infrastructure development - Project & Professional Skills 6	3,75	
ř		CU23878	Coastal Engineering 1	2,5	1
		CU23879	Structural Engineering 3	2,5	1
		CU23880	Water supply and Sanitation	2,5	1
	Block 3	CU23881	Project Management 1	2,5	15,
		CU206003	HZ personality CE 3	1,25	1
		CU23882V2	Coastal zone development - Project &	3,75	1
ŀ		CU23883	Coastal Engineering 2	2,5	1
		CU79094V1	Applied Mechanics 3	2,5	1
		CU23885	Dredging and Ecology	2,5	1
	Block 4	CU23886V1	Project Management 2	2,5	15,
					-
		CU206004	HZ personality CE 4 Coastal zone development - Project & Professional Skills 8	1,25	-
		CU23887V3		3,75	
		CU79085V2	Coastal Challenge	10,0	4
		CU79086V1 or CU79087V1	Advanced Construction Engineering or	10,0	
ŝ	C 1	CU7000C) (4	Urban Water Management	10.0	20
Year 3	S1	CU79086V1 or	Advanced Construction Engineering or	10,0	30,0
ž		CU79087V1 or	Urban Water Management or		1
		CU20700V1 or	Advanced Water Technology or Change yes we can + Making Rusiness Intelligent		
		CU75044V1 + CU75043V1	Change yes we can + Making Business Intelligent Minor	30,0	30,0
ŀ	S2	Various			

February enrollment intake January 2024

2.2.3b Transfer with an associate degree certificate (article 3.3 CER HZ)

Admission of students with an Associate Degree certificate: Students with an Ad certificate Built environment granted by Avans Hogeschool (Brin 07GR), located in Roosendaal and 's-Hertogenbosch, receive immediate admission. These students can during the first year of registration also register for the post-'propedeuse' phase of the programme. The institutional board exempts them from the requirement of having a certificate for the successful completion of the 'propedeuse' examination (via WHW art. 7.30 paragraph 2). The Examination Board grants students with this certificate individual exemption from taking those examinations for which the Examination Board, prior to the first year of enrolment, has established, based on a programme comparison, that the student possesses the knowledge, insight and skills at the level that is being investigated through these examinations. The students must request exemption to this end in accordance with CER HZ Bachelor programma full-time article 4.6. The above does not apply to students with an Ad Built Environment certificate issued by other universities of applied sciences than the one mentioned, nor to students with an Ad certificate from a programme other than Ad Built Environment. For these students, the usual procedure of applying for exemptions applies according to the exemption policy.

- 2.2.4 **Courses propaedeutic phase** (article 3.5 CER HZ) See appendix 1.
- 2.2.5 Main phase courses (article 3.6 CER HZ) See appendix 2.

2.2.6 HZ Personality (article 3.11 CER HZ)

The curriculum reserves 10 study credits (ECTS) for HZ Personality. HZ Personality is spread over the curriculum as much as possible. With this learning pathway, HZ gives students space to personalize their own development during their studies, increases the possibilities for domaintranscending exploration and stimulates broad social engagement.

	HZ Personality	
VCCU06284	HZ personality CE 0	1,25
VCCU06283V6	VCA	1,25
CU206001	HZ personality CE 1	1,25
CU206002	HZ personality CE 2	1,25
CU206003	HZ personality CE 3	1,25
CU206004	HZ personality CE 4	1,25
CU79085V1	Coastal Challenge	2,5
	Total	10,0

For the cohorts of students that start the degree programme in the study year 2018-2019 and thereafter the HZ personality space in the curriculum is 10 credits. Some exceptions are listed as follows:

 For the cohorts of students that started the degree programme in the study year 2015-2016 and earlier a VCC (VCC = Free Composition Course) space is reserved in the curriculum of at least 2.5 and up to 7.5 credits. Students of the cohorts 2014-2015 and earlier are not obliged to follow Free Composition Courses. In that case they follow (other) courses related to the curriculum of the degree programme.

- 2. For the cohorts starting the degree programme in the study year 2017-2018 the HZ personality space in the curriculum is 7.5 credits.
- 2.2.7 **Specialisations** (article 3.9 CER HZ) Not applicable.

2.2.8 Internship (article 3.8 CER HZ)

Students who take part in the orienting internship CU11122 (work placement) of the study programme must meet the following conditions:

- The student must have an approved and signed work placement contract.
- Students who need to enter a construction site are strongly advised to have a valid VCAcertificate. If you do not have a VCA-certificate you are not allowed access a construction site in the Netherlands, this can be essential to acquire the competencies linked to the work placement.

The maximum period in which students are allowed to work on the same internship project:

• The period in which a specific internship project is worked out is 1 semester, with a maximum extension of 1 semester.

Additional conditions for work placements (Internships) abroad (outside the Netherlands):

• A maximum amount of 15 EC of resits in the semester of internship is allowed. If the student has more than 15EC of resits in the simultaneous running semester of the internship, the student is not allowed to attend the internship abroad since this will cause difficulties in attending the resits.

2.2.9 Minor (article 3.7 CER HZ)

Additional conditions for a minor abroad (outside the Netherlands):

• A maximum amount of 15 EC of resits in the semester of the minor is allowed. If the student has more than 15EC of resits in the simultaneous running semester of the minor, the student is not allowed to attend the minor abroad since this will cause difficulties in attending the resits.

If you are enrolled in the VWO track you can decide to follow a pre-Master program instead of the courses in semester 5.

2.2.10 *Participation in international exchange program* (article 4.5 CER HZ) No additional conditions.

2.2.11 Graduation (article 3.8 CER HZ)

Students who take part in the study program graduation phase (CU11021V1) must:

- carry out the graduation project at a company, body, or department within the Civil Engineering field of expertise.
- For the 4 years track:
 - have obtained at least 175 EC (including provisional credits) from the first-year phase and main phase when starting the graduation study period.

- have obtained 210 EC (including provisional credits) from the first year phase and main phase, before the graduation defense takes place.
- For the 3 years track:
 - have obtained at least 115 EC (including provisional credits) from the first-year phase and main phase when starting the graduation study period.
 - have obtained 150 EC (including provisional credits) from the first year phase and the main phase, before the graduation defense takes place.

The graduation manual is available on the Learn page of the course CU11021V1 Final Thesis. The latest version of the manual applies to all the students starting their graduation period in this academic year.

The maximum period in which students are allowed to work on the same graduation project:

The period in which a specific graduation project is worked out is 1 semester, with a maximum extension of 1 semester.

2.2.12 Assessments and inspection of results (article 6.1-6.7 CER HZ)

HZ uses seven assessment types that are defined in the <u>HZ Assessment Policy</u>, namely:

- Written knowledge test; set of questions focused on knowledge reproduction and/or knowledge application, which are answered in writing.
- Oral assessment; set of questions about knowledge (application), which are answered orally.
- Assignment; representation of a performed (professional) task.
- Presentation; explanation or explanation before an audience of a performed (professional) task.
- *Portfolio*; collection of evidence of competence provided by the student.
- Criterion-referenced interview; discussion between assessor and student based on evidence provided in advance, using predefined criteria.
- (Workplace) Assessment; performance of (professional) tasks and/or skills (in an authentic context).

The Examination Board's fraud regulations and testing protocols apply to the taking of tests, see MyHZ.

The examiner ensures that the result of a test is registered in Osiris student (article 6.6 of the CER HZ) within 10 working days after the student has taken the test and at least 5 working days before the next possibility for resit.

The student has the right to inspect the assignments/questions, their elaborations and the assessment criteria of the test taken by the student within 10 working days after the date on which the result of the test was announced, or as much earlier as is necessary in connection with the next possibility of resitting the test (article 6.4 and article 6.6 of the CER HZ).

2.2.13 *Transition arrangement* (article 6.7 CER HZ)

The following courses and assessments are considered equivalent.

In principle, the 'immediate effect' of the latest manuals, guides, requirements, etc. applies. This prevents different regimes applying to different cohorts of students registered at the same time for the same course/exam, especially during the orientation internship and the graduation phase.

ECs	Courses phased out	Current equivalent courses
2,5	CU20596 Introduction CE	CU20596V1 Introduction CE
2,5	CU79090 Construction materials 1	CU79090V1 Construction materials 1
	CU20610V1 Construction materials	
2,5	CU20598 Mathematics & Physics	CU20598V1 Mathematics & Physics
2,5	CU20600 Fluid mechanics 1	CU20600V1 Fluid mechanics 1
5,0	CU26000 to V1 Exploring Civil Engineering -	CU26000V2 Exploring Civil Engineering - Project
	Project & Professional Skills 1	& Professional Skills 1
2,5	CU20604 Fluid mechanics 2	CU20604V1 Fluid mechanics 2
2,5	CU79091 Construction materials 2	CU79091V1 Construction materials 2
	CU20601V1 Applied mechanics 2	
2,5	CU20602 Mathematics 1	CU20602V1 Mathematics 1
5 <i>,</i> 0	CU04206/ to V14 Academic reading for Delta +	EN39001 English B1 or EN39002 English B2 or
	CU04207/ to V10 Argument writing and	EN39003 English C1 or EN39004 English C2
	persuasive loop presentation	
5,0	CU20603 to V2 Exploring Civil Engineering -	CU20603V3 Exploring Civil Engineering - Project
	Project & Professional Skills 2	& Professional Skills 2
1,25	VCCU06283 to V5 VCA	VCCU06283V6 VCA
2,5	CU20605 Soil Mechanics 1	CU20605V1 Soil Mechanics 1
2,5	CU20613 Mathematics 2	CU20613V1 Mathematics 2
2,5	CU79092 Applied Mechanics 1	CU79092V1 Applied Mechanics 1
5,0	CU20607 to V3 Dutch Flemish delta polders -	CU20607V4 Sustainability and circularity in Civil
	Project & Professional Skills 3	Engineering - Project & Professional Skills 3
2,5	CU20608 Hydrology	CU20608V1 Hydrology
2,5	CU20609 Soil Mechanics 2	CU20609V1 Soil Mechanics 2
2,5	CU79093 Applied mechanics 2	CU79093V1 Applied mechanics 2
	CU20606V1 Applied mechanics 3	
5,0	CU20612 to V3 Dutch Flemish delta polders -	CU20612V4 Sustainability and circularity in Civil
	Project & Professional Skills 4	Engineering - Project & Professional Skills 4
3,75	CU23860 to V1 Inland infrastructure	CU23860V2 Inland infrastructure development -
	development - Project & Professional Skills 5	Project & Professional Skills 5
3,75	CU23877 to V2 Inland infrastructure	CU23877V3 Inland infrastructure development -
	development - Project & Professional Skills 6	Project & Professional Skills 6
3,75	CU23882 to V1 Coastal zone development -	CU23882V2 Coastal zone development - Project
	Project & Professional Skills 7	& Professional Skills 7
2,5	CU79094 Applied Mechanics 3	CU79094V1 Applied Mechanics 3
	CU23884 Applied Mechanics 4	
2,5	CU23886 Project Management 2	CU23886V1 Project Management 2
3,75	CU23887 to V2 Coastal zone development -	CU23887V3 Coastal zone development - Project
	Project & Professional Skills 8	& Professional Skills 8
30,0	CU11022 to V12 Orientation internship	CU11122 Orientation internship
10,0	CU79085V1 Integrated Coastal Challenge	CU79085V2 Coastal Challenge
30,0	CU11020 to V14 Final thesis	CU11021V1 Final thesis

2.3 Study recommendation

2.3.1. Conditions for registration for programme after NBSA (article 8.1, paragraph 9 HZ CER)

A study recommendation will be negative if the student, taking into account his personal circumstances is not deemed suitable for the bachelor's programme that he is doing because the results of his studies do not meet the requirements that the executive board has set down for this. Student with a formal negative study advice from the HZ Exam Committee are not allowed for any new enrolment in the Civil Engineering program of the HZ (CROHO 34279) for three years after the negative study recommendation.

2.4 Registering for courses and tests

- 2.4.1 The student registers for **courses** through OSIRIS Student (CER HZ article 4.4 paragraph 3).
 - The student will be informed about course registration by email no later than 2 weeks before the start of the study year.
 - New students will be registered by the study programme for the courses of block 1 in their first year at HZ.
 - To participate in the course, you must be enrolled no later than one week before the start.
 - Once the student is enrolled, the student will also see this in the timetable.
 - If a student decides not to take a course, the student contacts the SLC early.
- 2.4.2 Students register and de-register for tests through OSIRIS Student. Registration applies to all types of tests and all tests within a course. HZ works with registering for tests so that courses can organize the work for taking and assessing tests (OER article 6.3 paragraph 1).
 - Students are informed centrally in week 1 of each block via an email by the domain offices about registering for tests.
 - New students are enrolled by the program for the first two test occasions or guided therein by the program for tests of block 1 year 1.
 - Students must register for all tests in the block in which the tests are offered no later than the second week of classes (Sunday 23:59h, GMT+1). With registration before the deadline, the student is guaranteed to participate in the tests.
 - After registering, the student may decide not to take the test after all. In that case, the student deregisters himself/herself in OSIRIS Student again for the test opportunity. This can be done at any time, except if the student has participated in the test. Note! A student is entitled to two test attempts per academic year, unless the examination committee decides otherwise (CER article 6.2). Articles 2.2.4 and 2.2.5 of the Implementation Regulations state for each test how many test opportunities are offered in the academic year.
 - If a student has not registered before the deadline for a test opportunity in which the student does want to participate, the student contacts the study coach (SLC)
 - The student checks in week 6 of each block whether the test opportunity is in the timetable. If, after registration, the test is not in the timetable, the student contacts the domain office.
 - When a student is registered for a test and has not participated, Not Participated (NP) is entered as a result in OSIRIS.
- 2.4.3 More information about OSIRIS Student can be found on <u>HZ Learn under Student OSIRIS</u> <u>Support</u>.

CHAPTER 3 ESTABLISHMENT

- 3.1.1 The duration of the implementation regulations is the same as the duration of the HZ Course and Examination Regulations Bachelor programme full-time 2023-2024.
- 3.1.2 The study program committee has approved this implementation regulation on 24/04/2023.
- 3.1.3 These Course and Examination Regulations were established by the Executive Board on 04/07/2023.

Appendix 1 – Course propaedeutic phase

Block 1 / Semester 1																	
CU20596V1	CU20596V1 Title: Introduction CE Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language:																
Conditions for course participation: -																	
Conditions for test participation: -																	
possible job op	portun	ities an	d speci	alizatio	ons. Yo	vill explore the many field u will also get acquainted 017). Basics technical dra	d with te	echnical drawing teo									all the
Test code	Indivi	al/Writt dually/	, Group	ner	6	Description and assess type	sment	Content Link with learning outcomes	Weightin Factor (9	-	Minimum score	Planni test in week	0	Inspection of work ir week	ר sch	esit heduled week	Inspection of resit in week
TOETS01 (VT)	V	W x	0	т х	G	Portfolio		1.1.1; 4.1.1	100%		5.5	S1.9		S1.10	S1.	11	S1.12
1011301 (11)		^		~		FULTUIU		1.1.1, 4.1.1	100%		5.5	51.9		31.10	31.		31.12

Block 1 / Sem	ester 2	1													
CU20598V1 Title: Mathematics & Physics Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language: Dutch / English															
Conditions for course participation: -															
Conditions for test participation: -															
fundamental m	athema	atics, d				eals with mathematics and goniometry.	nd physi	cs principles applie	d to the civil e	engineering pro	fession. At	the end	d of the cour	se you will ma	ster
Test code	Compulsory literature: - Test code Format Description and assessment Content Weighting Minimum Planning Inspection Resit Inspection of resit in Verbal/Written/Other Individually/Group Verbal/Written/Other Verbal/Written/Other														
TOETS01 (VT)		x		x		Written knowledge test	t	3.1.1	100%	5.5	S1.9	S1	1.10	S1.20	S2.02

Block 1 / Sem	ester :	1													
CU20600V1	Title:	Fluid N	Nechar	nics 1			Number	of study credits: 2.	5 Numbe	r of contact ho	urs: 21	Mand	latory	Teaching languag	ge:
														Dutch / English	
Conditions for	onditions for course participation: -														
Conditions for	Conditions for test participation: -														
Brief description	on of co	ourse co	ontent:	This c	ourse p	presents the basics of f	luid mech	anics. At the end of	this course y	ou will be able t	o apply t	he basi	ic propertie:	s of fluids and gov	erning laws
of fluid mechar	nics focu	using o	n hydro	ostatics	s and p	ressure flow, including	; hydrodyr	namic software mod	lelling (EPAN	ET).					
Compulsory lit	erature	: Giles,	R. V., E	Evett, J	I. В. <i>,</i> &	Liu, C. (2014). Schaum'	's outline o	of fluid mechanics a	nd hydraulic	. McGraw-Hill E	ducation				
Test code	Form	at				Description and asse	ssment	Content	Weighting	Minimum	Plannir	ng	Inspection	Resit	Inspection
	Verbo	al/Writt	ten/Oth	ner		type		Link with	Factor (%)	score	test in		of work in	scheduled	of resit in
	Indivi	dually/	'Group					learning			week		week	in week	week
	v	W	0	I	G			outcomes							
TOETS01 (VT)		x		x		Written knowledge t	est	3.1.3	100%	5.5	S1.9		S1.10	S1.20	S2.02

Block 1 / Sem	ester	1													
CU79090V1 Title: Construction Materials 1 Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language: Dutch / English															
Conditions for course participation: -															
Conditions for	Conditions for test participation: -														
the course you	will be	able to	o choos	e the r	nost ap	vill introduce the basics p propriate construction n P. (2001). Construction m	naterial	based on the syste	n requiremer	its.	such as co	oncret	e, steel, timbe	r and masonry.	At the end of
Test code	Compulsory literature: Illston, J. M., & Domone, P. (2001). Construction materials: their nature and behaviour. CRC press. Test code Format Verbal/Written/Other Individually/Group Description and assessment type Content Link with learning outcomes Weighting Factor (%) Minimum score Planning test in week Inspection of work in week Resit scheduled in week Inspection of resit in week														
TOETS01 (VT)		x		x		Portfolio		1.1.3	100%	5.5	S1.9		S1.10	S1.11	S1.12

CU26000V2		Explor ssional	-	-	neering	- Project & N	umber of study credits: !	i,0 Numbe	r of contact ho	urs: 30 N	•	Teaching langua Dutch / English	ge:
Conditions for	course	partici	pation:	-									
Conditions for	test pa	rticipat	ion: -										
Brief description	on of co	ourse co	ontent:	This g	roup pr	oject focuses on the prof	essional design of an urb	an area for rea	l client in a real	case scenar	io. Introduction	CE will provide t	he basic
knowledge to i	underst	and the	e differe	ent ele	ments c	of the project, together w	vith the ability to approac	h technical dra	wings. Constru	ction Mater	ials 1, Fluid Mec	hanics 1 and Ma	thematics &
Physics will pro	ovide th	e tools	to deve	elop a :	simple o	design and detail it. The c	course provides the theor	etical backgrou	und to approacl	h the projec	t as a research p	roduct. This pro	ject
corresponds to	a preli	minary	design	phase	during	which you will work as a	professional engineering	team; at the e	nd of the quart	er you will d	eliver a research	n proposal, a pos	ter
presentation a	nd port	folios.											
Compulsory lit	erature	:											
Baarda, D.B. (2	014). R	esearch	n. This i	s it! Gu	uide to c	quantitative and qualitati	ve research 2nd edition	Groningen: No	ordhoff Llitgev	orc			
							ve rescaren Ena cantion.	or or migen. rec	or anon ongev	CI 3.			
Verhoeven, N.	(2015).	Doing	Resear	ch. The		and whys of applied resea		0	0	ers.			
		-			e hows a	• •	arch. 4th edition. Amster	dam: Boom Le	mma.	ers.			
Verschuren, P.		ewaard			e hows a	and whys of applied resea	arch. 4th edition. Amster l edition. Den Haag: Eleve	dam: Boom Le	mma.	Planning	Inspection	Resit	Inspection
	& Door	ewaard	d, H. (20	010). D	e hows a	and whys of applied resea g a Research Project. 2nd	arch. 4th edition. Amster l edition. Den Haag: Eleve	dam: Boom Le n Internationa	mma. I Publishing.	Planning test in	Inspection of work in	Resit scheduled	of resit in
Verschuren, P.	& Door Form Verba	rewaard at	d, Н. (20 ten/Oth	010). D	e hows a	and whys of applied resea g a Research Project. 2nd Description and assessn	arch. 4th edition. Amster I edition. Den Haag: Eleve nent Content	dam: Boom Le n Internationa Weighting	mma. I Publishing. Minimum	Planning	•		Inspection of resit in week
/erschuren, P.	& Door Form Verba	ewaard at al/Writi	d, Н. (20 ten/Oth	010). D	e hows a	and whys of applied resea g a Research Project. 2nd Description and assessn	arch. 4th edition. Amster I edition. Den Haag: Eleve nent Content Link with	dam: Boom Le n Internationa Weighting	mma. I Publishing. Minimum	Planning test in	of work in	scheduled	of resit in
/erschuren, P. est code	& Door Form Verba Indivi	ewaard at al/Writi idually/	d, H. (20 ten/Oth Group	010). D	e hows a Designing	and whys of applied resea g a Research Project. 2nd Description and assessn	arch. 4th edition. Amster l edition. Den Haag: Eleve nent Content Link with learning outcomes	dam: Boom Le n Internationa Weighting	mma. I Publishing. Minimum	Planning test in	of work in	scheduled	of resit in
/erschuren, P. est code	& Door Form Verba Indivi V	at al/Writi dually/	d, H. (20 ten/Oth Group	010). D	e hows a besigning G	and whys of applied resea g a Research Project. 2nd Description and assessn type	arch. 4th edition. Amster l edition. Den Haag: Eleve nent Content Link with learning outcomes	dam: Boom Le In Internationa Weighting Factor (%)	mma. I Publishing. Minimum score	Planning test in week	of work in week	scheduled in week	of resit in week
/erschuren, P. F est code	& Door Form Verba Indivi V	at al/Writi dually/	d, H. (20 ten/Oth Group	010). D	e hows a besigning G	and whys of applied resea g a Research Project. 2nd Description and assessn type Report and presentation	arch. 4th edition. Amster l edition. Den Haag: Eleve nent Content Link with learning outcomes n 1.1.2; 1.2.1	dam: Boom Le In Internationa Weighting Factor (%)	mma. I Publishing. Minimum score	Planning test in week	of work in week	scheduled in week	of resit in week
Verschuren, P. Fest code	& Door Form Verba Indivi V	at al/Writi dually/	d, H. (20 ten/Oth Group	010). D	e hows a besigning G	and whys of applied resea g a Research Project. 2nd Description and assessn type Report and presentation	arch. 4th edition. Amster l edition. Den Haag: Eleve nent Content Link with learning outcomes n 1.1.2; 1.2.1 2.1.1;7.1.1;	dam: Boom Le In Internationa Weighting Factor (%)	mma. I Publishing. Minimum score	Planning test in week	of work in week	scheduled in week	of resit in week
/erschuren, P. F est code	& Door Form Verba Indivi V	at al/Writi dually/	d, H. (20 ten/Oth Group	010). D	e hows a besigning G	and whys of applied resea g a Research Project. 2nd Description and assessn type Report and presentation	arch. 4th edition. Amster l edition. Den Haag: Eleve nent Content Link with learning outcomes n 1.1.2; 1.2.1 2.1.1;7.1.1; 7.1.2; 7.1.3;	dam: Boom Le In Internationa Weighting Factor (%)	mma. I Publishing. Minimum score	Planning test in week	of work in week	scheduled in week	of resit in week
/erschuren, P. Fest code	& Door Form Verba Indivi V	at al/Writi dually/	d, H. (20 ten/Oth Group	010). D	e hows a besigning G	and whys of applied resea g a Research Project. 2nd Description and assessn type Report and presentation	arch. 4th edition. Amster edition. Den Haag: Eleven nent Content Link with learning outcomes n 1.1.2; 1.2.1 2.1.1;7.1.1; 7.1.2; 7.1.3; 7.4.1; 8.1.1; 8.1.2; 9.2.1	dam: Boom Le In Internationa Weighting Factor (%)	mma. I Publishing. Minimum score	Planning test in week	of work in week	scheduled in week	of resit in week
Verschuren, P.	& Door Form Verba Indivi V	ewaard at al/Writh idually/ W x	d, H. (20 ten/Oth Group	010). D	e hows a pesigning	and whys of applied resea g a Research Project. 2nd Description and assess type Report and presentatior (Portfolio)	arch. 4th edition. Amster edition. Den Haag: Eleven nent Content Link with learning outcomes n 1.1.2; 1.2.1 2.1.1;7.1.1; 7.1.2; 7.1.3; 7.4.1; 8.1.1; 8.1.2; 9.2.1	dam: Boom Le In Internationa Weighting Factor (%)	mma. I Publishing. Minimum score	Planning test in week S1.7	of work in week S1.9	S1.10	of resit in week

Block 2 / Sem	ester :	1													
CU20602V1	Title:	Mathe	ematics	:1		Ν	Number	of study credits: 2	.5 Numbe	r of contact ho	urs: 21	Mandato	ory Te	aching languag	je:
													Du	utch / English	
Conditions for	course	partici	pation	-											
Conditions for	test pa	rticipa	tion: -												
Brief description	n of co	ourse co	ontent:	The co	ourse v	vill teach to apply mather	matical l	knowledge and skil	ls to obtain th	e required calc	ulation leve	el for civil	il engineeri	ng professional	s. At the end
of this course y	ou will	master	functi	ons, di	fferent	ial equations and partial	derivatio	on. The course will	also cover pr	ogramming in E	xcel.				
Compulsory lite	erature	e: -													
Test code	Form	at				Description and assess	sment	Content	Weighting	Minimum	Planning	g Ins	spection	Resit	Inspection
	Verbo	al/Writ	ten/Otl	her		type		Link with	Factor (%)	score	test in	of	f work in	scheduled	of resit in
	Indivi	idually/	'Group					learning			week	we	reek	in week	week
	v	w	0		G			outcomes							
	v	vv	0	•	9										
TOETS01 (VT)		x		x		Written knowledge test	st	3.1.1; 3.1.28	100%	5.5	S1.18	S1.	1.19	S1.20	S2.2

Block 2 / Sem	ester :	1													
CU79091V1	Title:	Constr	uction	Mater	ials 2		Number	of study credits: 2.	5 Number	of contact hou	ırs: 21	Mand		eaching languag	e:
													C	outch / English	
Conditions for	onditions for course participation: -														
Conditions for	Conditions for test participation: -														
Brief descriptio	n of co	urse co	ontent	This co	ourse p	presents the internal pro	operties o	of structural cross se	ctions and te	aches how to ca	alculate n	nomen	t of inertia a	nd moment of re	esistance for
complex cross s	ection	s. At th	e end o	of the c	ourse	ou will be able to dete	rmine the	e distribution of inte	rnal stresses i	in structural see	ctions.				
Compulsory lite	erature	: Hibbe	eler, R.	C. (201	.8). Sta	tics and Mechanics of N	Materials.	Pearson Higher Ed.							
Test code	Form	at				Description and asses	ssment	Content	Weighting	Minimum	Plannir	ng	Inspection	Resit	Inspection
	Verbo	al/Writt	en/Otl	her		type		Link with	Factor (%)	score	test in		of work in	scheduled	of resit in
	Indivi	dually/	'Group					learning			week		week	in week	week
	V W O I G outcomes														
TOETS01 (VT)		x		x		Written knowledge te	est	3.1.5	100%	5.5	S1.18		S1.19	S1.20	S2.2

Block 2 / Sem	nester	1											
CU20604V1	Title:	Fluid N	Mechar	nics 2		Num	per of study credits: 2.5	Numbe	r of contact ho	urs: 21	Mandatory	Teaching langua	ge:
												Dutch / English	
Conditions for	course	partici	pation	-									
Conditions for	test pa	rticipat	tion: -										
Brief description	on of co	ourse co	ontent:	At the	e end o	f this course you will be able t	o apply the basic prope	rties of fluid	s and governin	g laws of fl	uid mechanics fo	ocusing on open cl	nannel flow
						ncluding hydrodynamic softw							
Compulsory lit	erature	e: Giles,	, R. V., I	Evett, .	I. В., &	Liu, C. (2014). Schaum's outlir	e of fluid mechanics an	d hydraulics	. McGraw-Hill I	Education.			
Test code	Form	at				Description and assessmen	t Content	Weighting	Minimum	Planning	g Inspectio	n Resit	Inspection
	Verbo	al/Writi	ten/Otl	her		type	Link with	Factor (%)	score	test in	of work in	n scheduled	of resit in
	Indiv	idually/	'Group				learning			week	week	in week	week
		<i>,,</i>	,				outcomes						
	v	w	0		G		outcomes						
						Written knowledge test	3.1.6	100%	5.5	S1.18	S1.19	S1.20	S2.2

Block 2 / Sem	ester 1	L														
VCCU06283V6	Title:	VCA				1	Number	of study credits: 1	.25 N	Number	of contact ho	urs: 0 N	landator		aching langua itch / English	ge:
Conditions for o	ourse	particip	oation:	-												
Conditions for t	est par	ticipati	ion: -													
workshops. You	will stu xam. C	udy for)ur stuc	the the	eoretic	al part	llows you to gain a Safety on your own, and the pr only two attempts for ea	actice e	xams will be offere	d in HZ	2 by an e	xternal organi	zation. You	will recei	ive an ema	ail that will invi	te you to
Test code		at al/Writi idually/ W			G	Description and assess type	sment	Content Link with learning outcomes	Weigl Facto	•	Minimum score	Planning test in week		pection work in ek	Resit scheduled in week	Inspection of resit in week
TOETS01 (VT)		x		X		Certificate		-	10	00%	6.5 ³	\$1.13	S1.:	.13	S2.6	S2.6

³ The minimum score of 6.5 (65%) is set by the VCA organization and is required to pass the exam and achieve the VCA certificate.

Implementation Regulations CER HZ Bachelor program Civil Engineering – full-time Approval study program committee: 24/04/2023. Approval University Council: 04/07/2023.

Established by the executive board: 04/07/2023.

Block 2 / Sem	ester 1	L												
VCCU06284	Title	HZ per	rsonali	ty CE 0			Number	of study credits: 1.2	25 Numbe various	r of contact ho	urs: M	andatory	Teaching langua Dutch / English	ge:
Conditions for c	ourse	particip	oation:	-		·								
Conditions for t	est pai	ticipati	ion: -											
	ng as c e at th	lass rep e cours	present	ative, k		tes you to take part to ir g member of the progra					-			
Test code		al/Writi idually/	, Group			Description and assess type	sment		Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work week		Inspection of resit in week
	V	W	0	I	G			outcomes						
TOETS01 (VT)	X	x	X	x	X	Various		-	100%	5.5	Variable	Variable	Variable	Variable

CU20603V3		-	-	-	neering	g - Project & N	lumber of stud	ly credits: 5	Number	r of contact ho	urs: 30	Mandatory	Teaching langua Dutch/English	ge:
Conditions for	Professional Skills 2 Dutch/English tions for course participation: - Dutch/English tions for course participation: - - tions for course participation: - - tions for test participation: - - use for the prover point presentation and portfolio: -													
Conditions for	test pa	rticipat	tion: -											
Brief description	on of co	ourse co	ontent	: This g	roup p	roject focus on the profe	ssional design o	of an urban area	for real cl	lient in a real c	ase scenai	rio. Construction	Materials 2, Fluid	mechanics 2
and Mathemat	ics 1 pr	ovide tl	he tool	ls to de	velop a	a simple design and to de	tail it. The cou	rse provides the	theoretica	al background t	to approa	ch the project as	a research produc	ct and to mov
from hand drav	wing to	softwa	re drav	wings u	ising Ai	utoCAD. This project corre	esponds to a d	etailed design p	hase durin	ig which you w	ill work as	a professional e	ngineering team;	at the end of
the quarter you	u will de	eliver a	resear	ch repo	ort, a p	ower point presentation	and portfolios.							
Compulsory lit	erature	:												
Baarda, D.B. (2	014). R	esearch	n. This i	is it! Gu	uide to	quantitative and qualitat	ive research. 2	nd edition. Gror	ningen: No	ordhoff Uitgev	ers.			
Verhoeven, N.	(2015).	Doing	Resear	ch. The	e hows	and whys of applied rese	arch. 4th editi	on. Amsterdam	Boom Lei	mma.				
Verschuren, P.	& Door	ewaaro	d, H. (2	010). C	esignir	ng a Research Project. 2nd	d edition. Den	Haag: Eleven Int	ernationa	l Publishing.				
Test code	Form	at				Description and assess	ment Conte		0 0	Minimum		• •		•
	Verbo	al/Writt	ten/Ot	her		type	Link v	_{vith} Fa	ctor (%)	score		of work i	n scheduled	of resit in
	Indivi	dually/	'Group				learn	ing			week	week	in week	week
	v	w	0	I	G		outco	omes						
TOETS01 (VT)	x	x			x	Report and presentatio	n 2.2.1;	; 7.2.1;	50%	5.5	S1.17	S1.19	S1.20	S2.2
						(Portfolio)	7.2.2;	7.3.1;						
							7.3.2;	; 7.4.1;						
							8.1.1;	8.1.2;						
							9.2.1							
TOETS02 (VT)		x			x	Portfolio Fluid mechani	cs 2 4.1.2	3.1.9	15%	5.5	S1.17	S1.19	S1.20	S2.2
TOETS03 (VT)		x			x		4.1.2		15%	5.5	S1.17	S1.19	S1.20	S2.2
TOETS04 (VT)		x		x		Portfolio AutoCAD	3.1.4		15%	5.5	S1.18	S1.19	S1.20	S2.2
TOETS05 (VT)		x		x		Portfolio peer review an personal reflection	nd 1.3.1; 9.1.1	; 8.2.1;	5%	5.5	S1.17	S1.19	S1.20	S2.2

Block 3 / Sem	ester	2													
CU79092V1	Title:	Applie	d Mec	hanics	1		Number	of study credits: 2.	5 Number	r of contact ho	urs: 21	Manda	-	eaching languag outch / English	ge:
Conditions for	course	partici	pation	: -											
Conditions for	test pa	rticipat	tion: -												
•						ourse you will get acqua ically determined beams									
Compulsory lite	erature	e: Hibbe	eler, R.	C. (201	.8). Sta	tics and Mechanics of M	1aterials.	Pearson Higher Ed.							
Test code		at al/Writi idually/ W			G	Description and assess type	sment	Content Link with learning outcomes	Weighting Factor (%)	Minimum score	Plannin test in week	0	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
TOETS01 (VT)		x		x		Written knowledge tes	st	3.1.2	100%	5.5	S2.8		S2.9	S2.10	S2.12

Block 3 / Sem	ester 2	2													
CU20605V1	Title:	Soil M	echani	cs 1		1	Number	of study credits: 2	.5 Numb	er of contact l	ours: 21	Man	•	Feaching langua Dutch / English	ge:
Conditions for	course	partici	pation:	-											
Conditions for	test pa	rticipat	tion: -												
Brief descriptio	on of co	urse co	ontent:	This c	ourse v	vill introduce the basics o	of soil m	echanics. At the en	d of the cou	rse you will kn	ow how to	identif	y the basic m	aterial propertie	s of soil and
be able to calcu	ılate ve	rtical e	arth pr	essure	s, settl	ements, including the inc	corporat	ion of consolidatio	n.						
Compulsory lite	erature	: -													
Test code	Form	at				Description and assess	ment	Content	Weighting	Minimum	Plann	ing	Inspection	Resit	Inspection
	Verbo	al/Writt	ten/Otł	ner		type		Link with	Factor (%)	score	test ir	۱	of work in	scheduled	of resit in
	Indivi	dually/	'Group					learning			week		week	in week	week
	v	w	0		G			outcomes							
TOETS01 (VT)	•		5		J	Written knowledge tes	+	3.1.7	100%	5.5	S2.8		S2.9	\$2.10	S2.12
TUETSUI (VI)		X		x		written knowledge tes	ol.	5.1.7	100%	5.5	32.8		32.9	32.10	32.12

Block 3 / Sem	ester 2	2														
CU20613V1	Title:	Mathe	matics	2		N	Number	of study credits: 2	.5 N	umber	of contact hou	ırs: 21	Mano		ັeaching languaູ Dutch / English	ge:
Conditions for	course	partici	pation:	-												
Conditions for	test pa	rticipat	ion: -													
Brief descriptio	n of co	urse co	ontent:	The co	ourse d	eals with mathematics ar	nd physi	cs principles applie	ed to the	e civil e	ngineering pro	fession. /	At the e	end of this co	urse you will ma	ster
integrations, ve	ctors a	nd mat	rices a	nd con	nplex fu	inctions. The course will	also cov	er programming in	n Excel.							
Compulsory lite	erature	: -														
Test code	Form	at				Description and assess	ment	Content	Weigh	nting	Minimum	Planni	ng	Inspection	Resit	Inspection
	Verbo	al/Writt	ten/Oth	ner		type		Link with	Factor	· (%)	score	test in		of work in	scheduled	of resit in
	Indivi	dually/	'Group					learning				week		week	in week	week
	v	w	0		G			outcomes								
TOETS01 (VT)		x		<i>x</i>	•	Written knowledge test	t	3.1.1; 3.1.28	100)%	5.5	S2.8		S2.9	S2.10	S2.12

CU20607V4						ity in Civil Nu onal Skills 3	umber of study credits:	5 Numbe	r of contact ho	urs: 30 N	landatory	Teaching langua Dutch/English	ge:
Conditions for	course	partici	pation	: -									
Conditions for	test pa	rticipat	ion: -										
Brief description	on of co	ourse co	ontent	: This g	roup p	roject focuses on the profe	essional design of a sust	ainable and circ	ular urban syst	em for a rea	al client in a real	case scenario. A	pplied
mechanics and	soil me	echanic	s provi	de the	backgı	round knowledge to under	stand the system and p	rovide possible	solutions for th	e design cas	se. Laboratory e	xperiments and f	ield work
involve all the	disciplir	nes. Thi	s proje	ct corr	espon	ds to a preliminary design p	hase during which you	will work as a p	rofessional eng	gineering tea	am; at the end c	f the quarter you	will deliver
research propo	osal, a p	oster p	resent	ation a	nd a p	ortfolios.							
Compulsory lit	erature	e:											
Baarda, D.B. (2	014). R	esearch	n. This i	is it! Gu	uide to	quantitative and qualitativ	ve research. 2nd edition	. Groningen: No	oordhoff Uitgev	vers.			
Verhoeven, N.	(2015).	Doing	Resear	ch. The	e hows	and whys of applied resea	rch. 4th edition. Amste	rdam: Boom Le	mma.				
Verschuren, P.	& Door	rewaard	d, H. (2	010). C	esigni	ng a Research Project. 2nd	edition. Den Haag: Elev	en Internationa	l Publishing.				
Test code	Form	at				Description and assessm	ent Content	Weighting	Minimum	Planning	Inspection		Inspection
	Verbo	al/Writt	ten/Ot	her		type	Link with	Factor (%)	score	test in	of work in	scheduled	of resit in
	Indiv	idually/	'Group				learning			week	week	in week	week
	v	W	0	I	G		outcomes						
TOETS01 (VT)	x	x			x	Report and presentation	1.1.2; 1.2.1;	50%	5.5	S2.7	S2.9	S2.10	S2.12
						(Portfolio)	2.1.1;7.1.1;						
							7.1.2; 7.1.3;						
							7.4.1; 8.1.1;						
							8.1.2;9.2.1						
TOETS02 (VT)					x	Portfolio Applied Mecha 1	nics 3.1.9	25%	5.5	S2.7	S2.9	S2.10	S2.12
TOETS03 (VT)		x			x	Portfolio Soil Mechanics	1 4.1.2	20%	5.5	S2.7	S2.9	S2.10	S2.12
						Portfolio peer review and	d 1.3.1;8.2.1;	5%	5.5	S2.7	S2.9	S2.10	S2.12

Block 4 / Sem	ester 2												
CU20608V1	Title:	Hydro	logy			Nun	nber of study credits: 2	2.5 Numbe	r of contact ho	ours: 21	Mandatory	Teaching langua Dutch / English	ge:
Conditions for a	ourse	particip	oation:	-				•					
Conditions for t	est par	ticipat	ion: -										
hydrological mo Compulsory lite	delling rature:	and hy Shaw,	/drome	try.		this course you will be able appell, N., & Lamb, R. (2010). Hydrology in practice	4th edition.					
Test code	Form	at				Description and assessme	ent Content	Weighting	Minimum	Plannir			Inspection
	Verbo	ıl/Writ	ten/Ot	her		type	Link with	Factor (%)	score	test in	of work i	n scheduled	of resit in
	Indivi	dually/	/Group				learning			week	week	in week	week
	v	w	0	I	G		outcomes						
TOETS01 (VT)		x		x		Written knowledge test	1.1.4	100%	5.5	S2.18	S2.19	S2.20	S2.22

Block 4 / Sem	ester 2														
CU20609V1	Title:	Soil M	echani	cs 2		N	lumber	of study credits: 2	5 Numb	er of contact ho	urs: 21	Mand	-	eaching langua Outch / English	ge:
Conditions for a	ourse	particip	oation:	-					•						
Conditions for t	est par	ticipati	ion: -												
Brief description simple soil mech Compulsory lite	nanical	proble		At the	end of	this course you will be at	ble to u	nderstand and app	y the basic t	heory regarding	shear str	esses, s	slope stability	y and ground wa	iter flow to
Test code	Form	at				Description and assess	ment	Content	Weighting	Minimum	Plannir	ng	Inspection	Resit	Inspection
	Verbo	al/Writt	ten/Otl	her		type		Link with	Factor (%)	score	test in		of work in	scheduled	of resit in
	Indivi	idually/	'Group					learning			week		week	in week	week
	v	w	0	I	G			outcomes							
TOETS01 (VT)		x		x		Written knowledge test	t	1.1.5	100%	5.5	S2.18		S2.19	S2.20	S2.22

Block 4 / Sem	ester 2														
CU79093V1	Title:	Applie	d Mec	hanics	2		Number	of study credits: 2	.5 Numb	er of contact h	ours: 21	Mandator		eaching langua utch / English	ge:
Conditions for c	ourse p	particip	ation:	-											
Conditions for t	est par	ticipati	on: -												
structures and t	russes,	and ca	lculate	torsio	n in sin	this course, you will be pple structures. ics and Mechanics of M				ns, determine d	istributior	n of internal	forces an	d stresses in hi	nged
Test code		at al/Writh dually/ W			G	Description and asses type	sment	Content Link with learning outcomes	Weighting Factor (%)		Plann test ir week		pection work in ek	Resit scheduled in week	Inspection of resit in week
TOETS01 (VT)		x		x		Written knowledge te	st	3.1.8	100%	5.5	S2.18	S2.	19	S2.20	S2.22

CU20612V4				-		ity in Civil Nu onal Skills 4	mber of study credits:	5 Numbe	r of contact ho	ours: 30	Mandatory	Teaching langua Dutch/English	ge:
Conditions for	course	partici	pation	:-									
Conditions for	test pa	rticipat	tion: -										
Brief description	on of co	ourse co	ontent	: This g	roup p	roject focuses on the profe	ssional design of a sust	ainable and circ	ular urban sys	tem for a r	eal client in a rea	case scenario. A	pplied
mechanics and	soil me	echanic	s provi	de the	backgr	ound knowledge to unders	stand the system and p	ovide possible	solutions for th	ne design c	ase. Laboratory e	xperiments and f	ield work
involve all the d	disciplir	nes. Wi	th Auto	DCAD C	ivil 3D,	land surveying and GIS you	u will understand and e	xplain cartogra	ohy, geodesy, s	atellite ge	odesy, and topog	raphy and draw 3	D elements i
AutoCAD. This	project	corres	ponds	to a de	tailed o	design phase during which	you will work as a profe	essional enginee	ering team; at	the end of	the quarter you v	vill deliver a resea	arch report, a
power point pr	esenta	tion and	d a por	tfolios.									
Compulsory lit	erature	:											
			n. This i	is it! Gu	uide to	quantitative and qualitativ	e research. 2nd edition	. Groningen: No	oordhoff Uitge	vers.			
Verhoeven, N.	(2015).	Doing	Resear	ch. The	hows	and whys of applied resear	rch. 4th edition. Amste	rdam: Boom Le	mma.				
Verschuren, P.	& Door	ewaard	d, H. (2	010). C	esignir	ng a Research Project. 2nd	edition. Den Haag: Elev	en Internationa	l Publishing.				
Test code	Form	at				Description and assessm	ent Content	Weighting	Minimum	Plannin	g Inspection	n Resit	Inspection
	Verbo	al/Write	ten/Ot	her		type	Link with	Factor (%)	score	test in	of work in	scheduled	of resit in
	Indivi	idually/	'Group				learning			week	week	in week	week
	v	w	0	I	G		outcomes						
TOETS01 (VT)	x	х			x	Report and presentation	2.2.1; 5.1.1;	40%	5.5	\$2.17	S2.19	S2.20	S2.22
						(Portfolio)	6.1.1; 7.2.1;						
						()	7.2.2;7.3.1;						
							7.3.2;7.4.1;						
							8.1.1;8.1.2;						
							9.2.1						
TOETS02 (VT)		x			x	Portfolio Applied Mechar 2		20%	5.5	\$2.17	S2.19	\$2.20	S2.22
TOETS03 (VT)	1	x			x	Portfolio practical ⁴	4.1.1; 6.1.2	15%	5.5	S2.17	S2.19	S2.20	S2.22
TOETSO4 (VT)	1	x		x		Portfolio AutoCAD Civil 3		10%	5.5	S2.18	S2.19	S2.20	S2.22
TOETSO5 (VT)	l	x		x		Portfolio GIS	3.1.9	10%	5.5	S2.18	S2.19	S2.20	S2.22
TOETS06 (VT)		x		x		Portfolio peer review and personal reflection	d 1.3.1;8.2.1; 9.1.1	5%	5.5	S2.17	S2.19	S2.20	S2.22

⁴ This portfolio includes the practicals of Surveying, Soil Mechanics 2, and Hydrology (each of those contributes to 5% of the final grade).

Block / Semester: S1									
Block / Semester: S2									
EN39001	Title: Foundation Course B1	Title: Foundation Course B1							
Course information									
Number of study credits: 5 Teaching language: English									
Conditions for course participation:									
Conditions for test participation:									
Brief description of co Students must comple	<pre>purse content: te the placement test and/or consult</pre>	the LCC teacher before the	ey can register for an English	foundation course.					
Learning Outcome(s): • Readin	•	····							
topics;		ion or personal opinion; un	iderstand factual newspape	r articles; understan	d the gist of theoretical academic articles on familiar				
Writing	-	o or fomilior mottors, moko	rooconchly acquirate notae	from mootings and s	aminara an familiar taniaa, maka hacia natas in				
Ability to: write emails/letters based on personal experience or familiar matters; make reasonably accurate notes from meetings and seminars on familiar topics; make basic notes in lectures;									
Listeni	ng								
Ability to: understand clear basic instructions; identify the main topic of a basic broadcast or lecture with some guidance; understand instructions on classes and assignments by lecturers;									
• Speaking									
	nions on simple matters; ask for basic								
Learning goal: Strong	ore details see: https://learn.hz.nl/plu B_1_lovel	ginfile.php/289968/mod_r	esource/content/0/CEFR-al	I-scales-and-all-skills.	.pdf				
Compulsory literature									
		Online Practice Niamh Hu	mnhrevs: Susan Kingslev, 1e	druk ISBN: 978312	5405967, Kosten: €37,00, Open World Preliminary:				
•	nswers with Online Practice	onine Practice, Mannie Pra	inpineys, susan kingsley, re	. uruk, 13014. 370312					
Exams info									
Code	Form	Description	Weight (%)	Result	Planned tests				
TOETS01 (VT)	Written knowledge test	Reading	25%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9				
TOETS02 (VT)	Written knowledge test	Writing	25%	5,5	B3.8; B4.8; B3.10; B4.10				
TOETS03 (VT)	Oral test	Listening	25%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9				
TOETS04 (VT)	Oral test	Speaking	25%	5,5	B4.8; B3.9; B4.9; B3.10; B4.10				

Block / Semester: S1									
Block / Semester: S2									
EN39002	Title: Foundation Course B2	Title: Foundation Course B2							
Course information									
Number of study credits: 5 Teaching language: English									
Conditions for course	participation: -								
Conditions for test pa	rticipation: -								
Brief description of co Students must comple	purse content: ete the placement test and/or consult t	he LCC teacher before they can r	register for an English founda	ation course.					
Learning Outcome(s): • Readir Ability to: scan texts for		e gist of information and articles	on nonfamiliar topics and ur	nderstand mos	st of the content;				
• Writin Ability to: express opin vocabulary and gramn	nions and give reasons; write a simple p	piece of academic writing (e.g. a	report) giving some evaluation	on, advice etc.	; present arguments using a limited range of				
	or lecture on a familiar topic; keep up	with conversations on a fairly w	ide range of topics; understa	and the answe	rs to factual questions asked;				
					nswer predictable and factual questions. odf				
Learning goal: Strong					• • •				
Compulsory literature Online Practice	e: Open World B2, Anthony Cosgrove a	nd Deborah Hobbs, 1e druk, ISB	N: 9783125406070, Kosten: •	€40,80, Open '	World First: Student's Book with Answers with				
Exams info									
Code	Code	Code	Code	Code	Toetsgelegenheden (blokcodes)				
TOETS01 (VT)	Written knowledge test	Reading and Use of English	40%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9				
TOETS02 (VT)	Written knowledge test	Writing	20%	5,5	B3.8; B4.8; B3.10; B4.10				
TOETS03 (VT)	Oral test	Listening	20%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9				
TOETS04 (VT)	Oral test	Speaking	20%	5,5	B4.8; B3.9; B4.9; B3.10; B4.10				

Implementation Regulations CER HZ Bachelor program Civil Engineering – full-time Approval study program committee: 24/04/2023. Approval University Council: 04/07/2023. Established by the executive board: 04/07/2023.
B4.8; B3.9; B4.9; B3.10; B4.10

Block / Semester: S1					
Block / Semester: S2					
EN39003	Title: Foundation Course C1				
		Course ir	nformation		
Number of study credits:	5		Teaching language: Englis	n	
Conditions for course pa	rticipation: -				
Conditions for test partic	ipation: -				
Brief description of cours	se content:				
Students must complete	the placement test and/or consult t	he LCC teacher before they can i	register for an English founda	ation course.	
Learning Outcome(s):					
Reading					
•	ails/letters giving routine informati	on or personal opinion: understa	and factual newspaper article	s: understand	the gist of theoretical academic articles on familiar
opics;				-,	
Writing					
Ability to: write emails/le	tters based on personal experience	or familiar matters; make reaso	nably accurate notes from m	eetings and sei	minars on familiar topics; make basic notes in
ectures;					
Listening					
Speaking	ar basic instructions; identify the m	ain topic of a basic broadcast or	lecture with some guidance;	understand ins	structions on classes and assignments by lecturers;
	ns on simple matters; ask for basic i	nformation: offer basic advice or	n familiar topics: take part in	a seminar or m	neeting using simple language.
/ ! !	details see: https://learn.hz.nl/plug		1 / 1		
Learning goal: Strong C-1	level	<u> </u>			
Compulsory literature: O	pen World First Student's Book wit	h Answers with Online Practice, A	Anthony Cosgrove Deborah H	lobbs, 1e druk,	ISBN: 9781108759052, Kosten: €36,99, Open
World First Student's Boo	ok with Answers with Online Practic	e			
			ns info		
Code	Code	Code	Code	Code	Code
TOETS01 (VT)	Written knowledge test	Reading and Use of English	40%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9
TOETS02 (VT)	Written knowledge test	Writing	20%	5,5	B3.8; B4.8; B3.10; B4.10
TOETS03 (VT)	Oral test	Listening	20%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9

20%

5,5

Implementation Regulations CER HZ Bachelor program Civil Engineering – full-time Approval study program committee: 24/04/2023. Approval University Council: 04/07/2023. Established by the executive board: 04/07/2023.

Speaking

Oral test

TOETS04 (VT)

Block / Semester: S1					
Block / Semester: S2					
EN39004	Title: Foundation Course C2				
		Course ir	nformation		
Number of study cred			Teaching language: Eng	lish	
Conditions for course	• •				
Conditions for test pa	•				
Brief description of co Students must comple	<pre>purse content: ete the placement test and/or consult t</pre>	he LCC teacher before they can i	register for an English foun	dation course.	
topics; • Writin Ability to: write emails lectures; • Listeni Ability to: understand • Speaki Ability to: express opin Based on CEFR. For m Learning goal: Strong Compulsory literature	ng emails/letters giving routine informati g s/letters based on personal experience ing clear basic instructions; identify the m ing nions on simple matters; ask for basic i ore details see: https://learn.hz.nl/plug C-2 level	or familiar matters; make reaso ain topic of a basic broadcast or nformation; offer basic advice or ginfile.php/289968/mod_resourc with Answers with Downloadab	nably accurate notes from lecture with some guidanc n familiar topics; take part ce/content/0/CEFR-all-scale le Software Annette Capel	meetings and sem e; understand inst in a seminar or me es-and-all-skills.pd and Wendy Sharp	f , Annette Capel and Wendy Sharp, ISBN:
	,,		ns info		
Code	Code	Code	Code	Code	Code
TOETS01 (VT)	Written knowledge test	Reading and Use of English	40%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9
TOETS02 (VT)	Written knowledge test	Writing	20%	5,5	B3.8; B4.8; B3.10; B4.10
TOETS03 (VT)	Oral test	Listening	20%	5,5	B3.6; B4.6; B3.7; B4.7; B3.8; B4.8; B3.9; B4.9
TOETS04 (VT)	Oral test	Speaking	20%	5,5	B4.8; B3.9; B4.9; B3.10; B4.10

Appendix 2 – Course main phase

Block 5 / Sem	ester 3	3												
CU23856	Title:	Transp	oort Inf	rastru	cture 1	. N	lumber of	study credits: 2.	.5 Numbei	of contact ho	urs: 21 M	andatory	Teaching langua Dutch / English	ge:
Conditions for c	ourse	particip	pation:	The co	ourse w	ill be also given in Dutch ij	if at least .	10 students subs	cribe for it					
Conditions for t	est par	ticipat	ion: -											
•	where	e roads				ucture is a must to transp s were thriving and cities v					0,			infrastructure
Test code		a t al/Writ idually/	•			Description and assessr type	L Ie	Content ink with earning	Weighting Factor (%)	Minimum score	Planning test in week	Inspectio of work i week		Inspection of resit in week
	V	W	0	I	G		0	outcomes						
TOETS01 (VT)		x		x		Written knowledge test	t 1	.1.6; 3.1.12	100%	5.5	S1.9	S1.10	S1.20	S2.02

Block 5 / Sem	ester 3	3												
CU23857	Title:	Struct	ural En	gineer	ing 1	Nu	umber of study cro	edits: 2.5	Number	of contact hou	rs: 21 N	andatory	Teaching langua Dutch / English	ge:
Conditions for o	ourse	particip	pation:	The co	ourse w	ill be also given in Dutch if	^f at least 10 studer	nts subscrib	e for it					
Conditions for t	est par	rticipati	ion: -											
•	e, you v ne Euro	will be a codes.				you will broaden the knov oncrete beams and floors u	0					•		
Test code		nat al/Writi idually/ W	•		G	Description and assessm type	nent Content Link with learning outcomes		eighting ctor (%)	Minimum score	Planning test in week	Inspectio of work in week		Inspection of resit in week
TOETS01 (VT)		x		x		Written knowledge test	1.1.7; 3.1.	13	100%	5.5	S1.9	S1.10	S1.20	S2.02

Block 5 / Sem	ester 3													
CU23875	Title:	Enviro	nment	al Eng	ineerin	g N	Number o	of study credits: 2.5	Number	r of contact ho	urs: 21	Mandatory	Teaching langua Dutch / English	ge:
Conditions for a	ourse	particip	oation:	The co	ourse w	ill be also given in Dutch	if at leas	t 10 students subscr	ibe for it					
Conditions for t	est par	ticipat	ion: -											
water pollution.						undamental processes/co ironmental engineering:			0		materials	eparation in wa	ste processing, air	pollution and
Test code		al/Writ	ten/Oti ′Group O		G	Description and assess type			Weighting Factor (%)	Minimum score	Plannin test in week	g Inspectio of work i week		Inspection of resit in week
TOETS01 (VT)		x		x		Written knowledge test	t	1.1.8	100%	5.5	S1.9	S1.10	S1.20	S2.02

Block 5 / Sem	ester 3													
CU23859	Title:	Found	ations	1		N	umber of study	credits: 2.5	Number	of contact ho	urs: 21 I	Mandatory	Teaching lan Dutch / Engl	
Conditions for o	ourse	particip	oation:	The co	ourse w	ill be also given in Dutch if	^f at least 10 stu	dents subscri	be for it					
Conditions for t	est par	ticipati	ion: -											
•	undati	on syst				eals with shallow foundati boundary conditions and			•		•		e selection and	he design of the
Test code	Form	at				Description and assessn	nent Conter	nt V	Veighting	Minimum	Planning	Inspect	on Resit	Inspection
	Verbo	al/Write	ten/Otl	her		type	Link wi	th F	actor (%)	score	test in	of work	in schedule	d of resit in
	Indivi	dually/	/Group				learnin	g			week	week	in week	week
	v	w	0	I	G		outcon	nes						
TOETS01 (VT)		x		x		Written knowledge test	1.1.9; 3	3.1.11	100%	5.5	S1.9	S1.10	S1.20	S2.02

CU23860V2		Inland ssiona			e devel	opment - Project & Nu	mber of study credits:	3.75 Numb	er of contact ho	ours: 30	Mandatory	Teaching langua Dutch/English	ge:
Conditions for	course	partici	pation	: The c	ourse w	ill be also given in Dutch if	at least 10 students sub	oscribe for it					
Conditions for	test pa	rticipa	tion: -										
Brief descriptio	on of co	ourse co	ontent	: This g	roup pr	oject focus on the develop	ment of inland areas fo	r a real client	in a real case so	enario. Env	vironmental engi	neering is fundam	iental to
						nile new roads need to be	-			-		-	
						stems. Design software, su		t, D-sheets, et	c., are needed t	o develop	your design. This	project correspo	nds to a
			ing wh	ich you	ı will wo	ork as a professional engin	eering team.						
Compulsory lit													
						quantitative and qualitativ		-	-	vers.			
		-				and whys of applied resear							
			а, н. (2	010). L	esignin	g a Research Project. 2nd e		1		<u> </u>		-	
Test code	Form					Description and assessm		Weighting	Minimum	Plannin test in	g Inspection of work in		Inspection of resit in
		al/Writ				type	Link with	Factor (%)	score	week		Scheduleu	
	Indivi	idually/	'Group				learning			WEEK	week	in week	week
	V	W	0	I	G		outcomes						
TOETS01 (VT)	x	x			x	Report and presentation	1.1.2; 1.2.1;	50%	5.5	S1.7	S1.9	S1.10	S1.12
						(Portfolio)	2.1.1; 7.1.1;						
							7.1.2; 7.1.3;						
							7.4.1; 8.1.1;						
							8.1.2; 9.2.1	1.00/					
TOETS02 (VT)		x			x	Portfolio Transport infrastructure 1	3.1.9	10%	5.5	S1.7	S1.9	S1.10	S1.12
TOETS03 (VT)		x			x	Portfolio Structural	3.1.9	14%	5.5	S1.7	S1.9	S1.10	S1.12
						engineering 1							
TOETS04 (VT)		x			x	Portfolio Environmental	3.1.9	10%	5.5	S1.7	S1.9	S1.10	S1.12
						Engineering							
TOETS05 (VT)		X			x	Portfolio Foundations 1	3.1.9	10%	5.5	S1.7	S1.9	S1.10	S1.12
TOETS06 (VT)		x		x		Portfolio peer review and personal reflection	l 1.3.1;8.2.1; 9.1.1	6%	5.5	S1.7	S1.9	S1.10	S1.12

Block 5 / Sem	ester 3	3											
CU206001	Title	HZ pei	rsonalit	ty CE 1		Nu	umber of study credits: 1		nber of contact ous	nours: N	/landatory	Teaching langua Dutch / English	ge:
Conditions for a	ourse	particip	oation:	-									
Conditions for t	est par	ticipati	ion: -										
	ing as c le at th	lass rep e cours	present	ative, l	by bein	tes you to take part to inte g member of the program							
Test code		at al/Writi idually/				Description and assessm type	Link with learning	Weighti Factor (-	Planning test in week	Inspectio of work i week		Inspection of resit in week
	v	w	0	I	G		outcomes						
TOETS01 (VT)	x	x	x	x	x	Various	-	100%	5.5	Variable	Variable	Variable	Variable

Block 6 / Sem	ester 3	3												
CU206002	Title:	HZ pei	rsonalit	ty CE 2		N	lumber of	study credits: 1.2	5 Numbe various	r of contact ho	urs: M	andatory	Teaching langua Dutch / English	ge:
Conditions for a	ourse	particip	pation:	-										
Conditions for t	est par	ticipat	ion: -											
week, by enrolli policy is availab	ng as c le at th	lass rep e cours	present	ative, k	oy bein	tes you to take part to into g member of the program					-			
Verbal/Written/Other type Link with Factor (%) score test in week of work in week scheduled of work in week Individually/Group utcomes outcomes outcomes outcomes outcomes													Inspection of resit in week	
	V		0		•	Mariana			1000/		Mantalala	Maniahla	Mariahla	Maniahla
TOETS01 (VT)	x	x	x	X	X	Various	-		100%	5.5	Variable	Variable	Variable	Variable

Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Dutch / English Conditions for course participation: -	of contract house 24 Manufatana Tracitici		- N								ock 6 / Sem		
Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Conditions for test participation: - Brief description of course content: Good infrastructure is a must to transport goods to and from the hinterland. Historically speaking, delta areas could not develop without if (roads). In areas where roads were built, harbours were thriving and cities were developing. In this course, you will learn how to design, build and maintain a road. Compulsory literature: - Test code Format Verbal/Written/Other Individually/Group Description and assessment type Void Merities were develop in the course symptotic state in week Planning to work in week Resit scheduled in week TOETSOI (VT) X Written knowledge test 1.1.10; 3.1.15 100% 5.5 S1.18 S1.19 Block 6 / Semester 3 Cu23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contract hours: 21 Mandatory Teaching language Dutch / English Conditions for course participation: - Block 6 / S		ber of contact hou	.5 Numb	er of study credits: 2	2 Numbe	cture 2	rastru	ort Inf	Transp	litle:	23861		
Conditions for test participation: - Brief description of course content: Good infrastructure is a must to transport goods to and from the hinterland. Historically speaking, delta areas could not develop without i (roads). In areas where roads were built, harbours were thriving and cities were developing. In this course, you will learn how to design, build and maintain a road. Compulsory literature: - Test code Parmat Description and assessment type Content Weighting Factor (%) Minimum Planning test in week Resit scheduled in week V W O I G Content Verbal/Written/Other to for work in week Score Planning test in week Scheduled in week Score Numeek Planning test in week Score Numeek Planning test in week Scheduled in week Score Numeek Planning test in week Score Score Numeek Score Numeek Score			crihe for it	past 10 students sub	uill be also aiven in Dutch if at le	urse w	The co	ation	articir	ourse n	nditions for a		
Brief description of course content: Good infrastructure is a must to transport goods to and from the hinterland. Historically speaking, delta areas could not develop without i (roads). In areas where roads were built, harbours were thriving and cities were developing. In this course, you will learn how to design, build and maintain a road. Compulsory literature: - Test code Pormat Poscription and assessment type Weighting to work in the kind with learning outcomes Minimum score Planning test in week Resit scheduled in week <i>V</i> w 0 1 Good infrastructure is a must to transport goods to and from the hinterland. Historically speaking, delta areas could not develop without i (roads). In areas where roads were built, harbours were thriving and cities were developing. In this course, you will learn how to design, build and maintain a road. Computer individually/Group Description and assessment type Weighting Factor (%) Minimum score Planning test in week Resit scheduled in week TOETSOI (VT) x x Written knowledge test 1.1.10; 3.1.15 100% 5.5 \$1.18 \$1.19 \$1.20 Close seter 3 CU23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contact h							1110 00		•	•			
(roads). In areas where roads were built, harbours were thriving and cities were developing. In this course, you will learn how to design, build and maintain a road. Compulsory literature: - Test code Format Verbal/Written/Other Individually/Group Description and assessment type Content Link with learning outcomes Weighting Factor (%) Minimum score Planning test in week Inspection of work in week Resit scheduled in week 70ETS01 (VT) x x Written knowledge test 1.1.10; 3.1.15 100% 5.5 \$1.18 \$1.19 \$1.20 Block 6 / Semester 3 CU23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contact hours: 21 Mandatory Dutch / English Teaching languag Dutch / English Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel cons After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the	· · · · · · · · · · · · · · · · · · ·					<u> </u>	<u> </u>						
Compulsory literature: - Format Description and assessment Content Weighting Minimum Planning Inspection Resit Test code Verbal/Written/Other Individually/Group Description and assessment Content Link with Factor (%) Score Planning Inspection of work in week scheduled in week													
Format Description and assessment Content Weighting Minimum Planning Inspection Resit Verbal/Written/Other Individually/Group v 0 1 G Scheduled in week	learn now to design, build and maintain a road.	will learn now to u	burse, you w	developing. In this c	s were thriving and cities were	nbours	unt, na	were b					
Verbal/Written/Other Individually/Group type Link with learning outcomes Factor (%) score test in week of work in week scheduled in week TOETS01 (VT) x x Written knowledge test 1.1.10; 3.1.15 100% 5.5 \$1.18 \$1.19 \$1.20 Block 6 / Semester 3 V V W V	Mistory Disputer Issuesting Death			Contont	Description of a second						· · ·		
Individually/Group Image: Structural learning outcomes week week week in week V W O I G outcomes in week in week in week TOETS01 (VT) x x Written knowledge test 1.1.10; 3.1.15 100% 5.5 \$1.18 \$1.19 \$1.20 Block 6 / Semester 3 CU23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language Dutch / English Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel cons: After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the end steel members using the existing regulations, such as NEN standards and in the near future the end standards an		-			•						st code		
Individuality/Group Individuality/Group In Week In Week V W O I G outcomes In Week In Week In Week TOETS01 (VT) x x Written knowledge test 1.1.10; 3.1.15 100% 5.5 S1.18 S1.19 S1.20 Block 6 / Semester 3 CU23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language Dutch / English Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel const After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the	work) score	Factor (%)	Link with	type								
V W O I G Image: Construction of the course of the	inalviaually/Group learning week in week week												
Block 6 / Semester 3 CU23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language Dutch / English Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel const After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the				outcomes		G	I	0	w	V			
CU23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language Dutch / English Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Teaching language Dutch / English Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel constructions and steel members using the existing regulations, such as NEN standards and in the near future the design of the course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the design of the course of the cou	5.5 S1.18 S1.19 S1.20 S	5.5	100%	1.1.10; 3.1.15	Written knowledge test		x		x		ETSO1 (VT)		
CU23874 Title: Structural Engineering 2 Number of study credits: 2.5 Number of contact hours: 21 Mandatory Teaching language Dutch / English Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Dutch / English Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel constructions and in the near future the design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the design of the course of										ester 3	ock 6 / Sem		
Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for it Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel const After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the	of contact hours: 21 Mandatory Teaching language:	ber of contact hou	.5 Numt	er of study credits: 2	Numbe	ing 2	gineer	ural En					
Conditions for test participation: - Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel const After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the	Dutch / English												
Brief description of course content: In the course you will broaden the knowledge about drawing and detailed design of concrete constructions as well as design of steel const After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the			cribe for it	east 10 students sub	vill be also given in Dutch if at le	urse w	The co	ation:	particip	ourse p	nditions for a		
After this course, you will be able to design and concrete beams and floors and steel members using the existing regulations, such as NEN standards and in the near future the								on: -	ticipati	est part	nditions for t		
	gn of concrete constructions as well as design of steel constructions as well as design of steel constructions	lesign of concrete	d detailed d	ge about drawing ar	you will broaden the knowled	course	In the	ntent:	irse co	n of cou	ef descriptio		
ouilding regulations established in the Eurocodes.	gulations, such as NEN standards and in the near future the Eu	g regulations, such	the existing	teel members using	oncrete beams and floors and s	and co	design	ble to	/ill be a	e, you w	er this course		
						codes.	e Euro	ed in th	ablishe	ons est	lding regulat		
Compulsory literature: -									-	rature:	mpulsory lite		

Test code	Form	at				Description and assessment	Content	Weighting	Minimum	Planning	Inspection	Resit	Inspection
	Verbo	al/Writ	ten/Ot	her		type	Link with	Factor (%)	score	test in	of work in	scheduled	of resit in
	Indivi	ndividually/Group					learning			week	week	in week	week
	v	w	0	I	G		outcomes						
TOETS01 (VT)		x		x		Written knowledge test	1.1.13; 3.1.19;	100%	5.5	S1.18	S1.19	S1.20	S2.2
							3.1.27						

Block 6 / Sem	ester 3	}														
CU23858	Title:	Rural	Water	Manag	ement	N	lumber o	of study credits: 2	.5 Nui	nber	of contact hours	5: 21 Ma	ndatory		ching languag ch / English	ge:
Conditions for c	ourse	particip	oation:	The co	urse w	ill be also given in Dutch ij	if at leas	t 10 students subs	cribe for i	t						
Conditions for t	est par	ticipati	ion: -													
agricultural use, By the end of th	prevei is cour	nting sa se you	ilinatio will be	n and l able to	imiting desigr	eals with water managem water shortages during c an irrigation and drainag 2015). Irrigation and drain	drought. ge syster	The water system n in a rural area b	n in the ou alancing v	iter a	reas is very com	plex, which	is why simu	lation	software (Sol	
Test code		at al/Writi idually/ W		ner I	G	Description and assessr type		Content Link with learning outcomes	Weighti Factor (•	score	Planning test in week	Inspection of work week	in	Resit scheduled in week	Inspection of resit in week
TOETS01 (VT)		x		x		Written knowledge test	t	1.1.12; 3.1.10	100%	ò	5.5	S1.18	S1.19		S1.20	S2.2

Block 6 / Seme	ester 3	;												
CU23876	Title:	Found	ations	2		Nu	umber o	of study credits: 2	.5 Numb	er of contact ho	urs: 21 Ma		Teaching langua	ge:
													Dutch / English	
Conditions for c	ourse p	particip	oation:	The co	ourse w	ill be also given in Dutch if	f at leas	t 10 students subs	cribe for it					
Conditions for t	est par	ticipati	ion: -											
Brief description	n of co	urse co	ntent:	This co	ourse d	eals with flexible retaining	g structu	ires and it will pre	sent the bas	c knowledge ne	eded for the	selection and t	he design of the i	nost suitable
						ditions and limitations dec							U U	
Compulsory lite	rature	: -												
Test code	Form	at				Description and assessm	nent	Content	Weighting	Minimum	Planning	Inspection	Resit	Inspection
	Verbo	al/Writi	ten/Otl	her		type		Link with	Factor (%)	score	test in	of work in	scheduled	of resit in
	Indivi	idually/	'Group					learning			week	week	in week	week
	V	w	0		G			outcomes						
	v	vv	0		9									
TOETS01 (VT)		x		x		Written knowledge test		1.1.14; 3.1.14	100%	5.5	S1.18	S1.19	S1.20	S2.2

CU23877V3	Profe	essiona	l Skills	6			Number of study c			of contact ho	urs: 30	Mandatory	Teaching langua Dutch/English	ge:
Conditions for	course	partici	pation	: The c	ourse v	vill be also given in Dutc	h if at least 10 stud	ents subscribe	e for it					
Conditions for	test pa	rticipa	tion: -											
a sustainable a concrete const This project co point presenta Compulsory lit Baarda, D.B. (2 Verhoeven, N.	nd resil ruction rrespor tion and erature 014). Re (2015).	ient en s and fo nds to a d a por esearch Doing	ivironn oundat i detail tfolio. h. This Reseau	nent, w tion sys ed desi is it! Gu	vhile ne stems. I ign pha uide to e hows	roject focus on the deve w roads need to be desi Design software, such as se during which you will quantitative and qualita and whys of applied res	gned in order to co Sobek, Technosoft work as a profession tive research. 2nd earch. 4th edition.	onnect the new t, D-sheets, et onal engineer edition. Gron . Amsterdam:	w areas w ic., are ne ing team; ingen: No Boom Lei	ith the existing eded to develo at the end of ordhoff Uitgev mma.	g infrastruc op your des the quarte	ture. The design sign.	of new roads wil	require
Verschuren, P.	& Door	rewaar	d, H. (2	2010). [Designi	ng a Research Project. 2	nd edition. Den Haa	ag: Eleven Inte	ernational	Publishing.				
Test code		at al/Writ idually/				Description and asses type	Link with learning	Fac	ighting tor (%)	Minimum score	Plannin test in week	g Inspection of work in week		Inspectior of resit in week
	V	w	0	I	G		outcome	25						
TOETS01 (VT)	x	x			x	Report and presentati (Portfolio)	on 2.2.1; 3. 6.1.1; 7. 7.2.2;7.3 7.3.2;7.4 8.1.1; 9.	2.1; 3.1; 4.1;	50%	5.5	S1.17	\$1.19	\$1.20	S2.22
TOETS02 (VT)		x			x	Portfolio Transport infrastructure 2	3.1.9		10%	5.5	S1.17	S1.19	S1.20	S2.22
TOETSO3 (VT)		x			x	Portfolio Structural engineering 2	3.1.9		10%	5.5	S1.17	S1.19	S1.20	S2.22
TOETSO4 (VT)		x			x	Portfolio Rural water management	3.1.9		10%	5.5	S1.17	S1.19	S1.20	S2.22
TOETS05 (VT)	l	x		1	x	Portfolio Foundations	2 3.1.9		14%	5.5	S1.17	S1.19	S1.20	S2.22
TOETS06 (VT)		x		x		Portfolio peer review a personal reflection	and 1.3.1; 8.2 9.1.1	2.1;	6%	5.5	S1.17	S1.19	S1.20	S2.22

Block 7 / Sem	ester 4	ļ													
CU23878	Title	Coasta	al Engiı	neering	g 1	Nui	mber of	study credits: 2.	5 Number	of contact hou	ırs: 21	Mandat		eaching languag utch / English	ge:
Conditions for o	ourse	particip	oation:	The co	ourse w	ill be also given in Dutch if a	at least 1	10 students subso	ribe for it						
Conditions for t	est pai	ticipat	ion: -												
morphological a	ctivity, rature	locatic : Bosbo	on, etc. oom, J.	At the and Sti	end of ve, M.J	troduces the basics of coas this course you will be able I.F. (2022) Coastal Dynamic pen.tudelft.nl/textbooks/%2	le to desi cs https:/	gn safe coastal e //doi.org/10.507	nvironments	using dunes an	d dikes.		t coasts are	distinguished b	ased on their
Test code		al/Writ idually/	, Group		6	Description and assessme type	Li le		Weighting Factor (%)	Minimum score	Planning test in week	c	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	v	w	0	-	G										
TOETS01 (VT)		x		x		Written knowledge test	1.	.1.15	100%	5.5	S2.8	S	52.9	S2.10	S2.12

Block 7 / Sem	ester 4	Ļ													
CU23879	Title:	Struct	ural En	gineer	ing 3	N	lumber of	f study credits: 2	.5 Numb	er of contact ho	urs: 21	Mand	-	eaching langua utch / English	ge:
Conditions for a	ourse	particip	oation:	The co	ourse w	ill be also given in Dutch ij	if at least	10 students subs	cribe for it						
Conditions for t	est par	ticipati	ion: -												
•	ions, su	ich as N				you will broaden the know the near future the Europ	0			· •		ble to	design and s	teel members u	ising the
Test code	Form	at				Description and assessm	ment	Content	Weighting	Minimum	Plannin	g	Inspection	Resit	Inspection
	Verbo	al/Writ	ten/Otl	her		type		Link with	Factor (%)	score	test in		of work in	scheduled	of resit in
	Indiv	idually/	'Group				1	learning			week		week	in week	week
	v	W	0	I	G			outcomes							
TOETS01 (VT)		x		x		Written knowledge test	t :	1.1.13; 3.1.19	100%	5.5	S2.8		S2.9	S2.10	S2.12

Block 7 / Sem	ester 4	ţ													
CU23880	Title:	Water	supply	y and S	anitati	on Nu	umber of stud	ly credits: 2.5	Number	of contact ho	urs: 21	Mandatory		eaching langua utch / English	ge:
Conditions for a	ourse	particip	oation:	The co	urse w	ill be also given in Dutch if	f at least 10 st	udents subsci	ribe for it						
Conditions for t	est par	ticipati	ion: -												
conditions using	g a hydi	rodynai	mic cor	nputer	mode	d design different treatme I. ironmental engineering: p		-			lyse the pe	erformance o	of the s	ystem under di	verse system
Test code		at al/Writi idually/				Description and assessn type	Link v Iearni	vith ing	Weighting Factor (%)	Minimum score	Plannin test in week	g Inspe of wo week		Resit scheduled in week	Inspection of resit in week
	v	w	0	I	G		outco	omes							
TOETS01 (VT)		x		x		Written knowledge test	1.1.16	6; 3.1.18	100%	5.5	S2.8	S2.9		S2.10	S2.12

Block 7 / Sem	ester	4												
CU23881	Title:	: Projec	t Man	ageme	ent 1		Numbei	of study credits: 2.5	Numb 21	er of contact ho	ours: Ma		Teaching langua Dutch / English	ge:
Conditions for	course	partic	ipation	: The d	course	will be also given in Du	utch if a	t least 10 students subsc	ribe for it					
Conditions for	test pa	rticipa	tion: -											
people-related	and te se part	chnical icipant	requir	ement	ts nece	essary for the successfu	ul manag	al role in the manageme gement of engineering p ent and to engage with it	rojects, as w	ell as the organi	zational and		•	
Test code	Indiv	al/Writ idually,	, /Group			Description and assessment type		Content Link with learning outcomes	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	0	1	G									
TOETS01 (VT)		x		x		Written knowledge t	test	1.1.2; 1.1.17; 8.2.2	100%	5.5	S2.8	S2.9	S2.10	S2.12

CU23882V2		Coasta ssiona			opmen	t - Project & Nu	mber of study credits:	3.75 Numb	er of contact ho	ours: 30	Mandatory	Teaching langua Dutch/English	ge:
Conditions for	course	partici	pation	: The co	ourse v	vill be also given in Dutch if	at least 10 students sub	oscribe for it					
Conditions for	test pa	rticipa	tion: -										
fundamental to Water supply s	o ensuro ystems	e a safe and sti	e and su ructura	ustaina Il objec	ble dev ts mus	roject focus on the develop velopment. Project manage t be designed to complete phase during which you wil	ement skills and compet the design of the coasta	ences are rec I area.	uired to plan, m		-		
Verhoeven, N.	014). R (2015).	esearch Doing	Resear	ch. The	e hows	quantitative and qualitativ and whys of applied resear ng a Research Project. 2nd o	rch. 4th edition. Amster	dam: Boom L	.emma.	vers.			
Test code	Form	at				Description and assessm	ent Content	Weighting	Minimum	Planning			Inspection
		al/Writ idually/				type	Link with learning	Factor (%)	score	test in week	of work in week	scheduled in week	of resit in week
	v	w	0	I	G	-	outcomes						
TOETS01 (VT)	X	X			x	Report and presentation (Portfolio)	1.1.2; 1.2.1; 1.3.1; 2.1.1; 7.1.2; 7.1.3; 7.4.1; 8.1.1; 8.1.2; 9.2.1	50%	5.5	S2.7	S2.9	\$2.10	S2.12
TOETS02 (VT)		x			x	Portfolio Project Management 1	4.1.1, 4.1.6	10%	5.5	S2.7	\$2.9	S2.10	S2.12
TOETSO3 (VT)		x			x	Portfolio Coastal Enginee	ring 1.1.20; 1.3.3; 5.1.1	10%	5.5	S2.7	S2.9	S2.10	S2.12
TOETS04 (VT)		x			x	Portfolio Structural engineering 3	3.1.9	10%	5.5	S2.7	S2.9	S2.10	S2.12
TOETS05 (VT)		x			x	Portfolio Water supply ar sanitation	nd 3.1.9	10%	5.5	S2.7	S2.9	S2.10	\$2.12
TOETS06 (VT)		x		x		Portfolio peer review and personal reflection	8.2.1; 9.1.1	10%	5.5	S2.7	S2.9	S2.10	\$2.12

Block 7 / Sem	ester 4	ļ											
CU206003	Title	: HZ pei	rsonalit	ty CE 3		Nu	mber of study credits: 1	.25 Num vario	ber of contact ho us	ours: Ma	andatory	Teaching langua Dutch / English	ge:
Conditions for	ourse	particip	oation:	-		•							
Conditions for t	test par	rticipat	ion: -										
	ing as c le at th	lass rep e cours	present	ative, l	by bein	tes you to take part to inte g member of the program				-			
Test code		nat al/Writ idually/		her		Description and assessm type	Link with learning	Weightin Factor (%		Planning test in week	Inspection of work ir week		Inspectior of resit in week
	v	w	0		G		outcomes						
TOETS01 (VT)	x	x	x	x	x	Various	-	100%	5.5	Variable	Variable	Variable	Variable

Block 8 / Sem	ester 4	l.														
CU206004	Title:	HZ pei	rsonalit	ty CE 4		1	Number	of study credits: 1.		Number various	of contact ho	urs:	Mandatory		eaching langua utch / English	ge:
Conditions for a	ourse	particip	oation:	-												
Conditions for t	est par	ticipat	ion: -													
	ng as c e at th	lass rep e cours	present	ative, k	oy bein	tes you to take part to in g member of the program						-		-		
Test code		al/Writ idually/	ten/Otl /Group			Description and assess type	sment	Content Link with learning outcomes	Weig Facto	shting or (%)	Minimum score	Planning test in week		ection ork in	Resit scheduled in week	Inspection of resit in week
	V	w	0	1	G											
TOETS01 (VT)	X	X	X	x	X	Various		-	10	00%	5.5	Variable	Varia	ble	Variable	Variable

Block 8 / Sem	ester 4	ļ													
CU23883	Title	Coasta	al Engir	neering	g 2		Number	of study credits: 2	.5 Numb	er of contact ho	urs: 21	Mandatory		eaching langua utch / English	ge:
Conditions for	course	particip	pation:	The co	ourse w	ill be also given in Dutcl	h if at lea	st 10 students subs	cribe for it						
Conditions for	test pai	ticipat	ion: -												
revetment, taki Compulsory lite	ng the erature	environ : Bosbo	iment a	and clir and Sti	nate cł ive, M.	this course you will be nange into account. You J.F. (2022) Coastal Dyna pen.tudelft.nl/textbooks	will be a mics htt	ble to understand ps://doi.org/10.507	the most im	portant failure n	nechanism	ns of dikes ar			
Test code		a t al/Writ idually/	•			Description and asses type	ssment	Content Link with learning	Weighting Factor (%)		Plannir test in week	•	ection vork in k	Resit scheduled in week	Inspection of resit in week
	v	w	0	I	G			outcomes							
TOETS01 (VT)		x		x		Written knowledge te	est	1.1.18; 3.1.20; 3.1.25	100%	5.5	S2.18	\$2.1	.9	\$2.20	S2.22

Block 8 / Sem	ester 4	ļ.													
CU79094V1	Title:	Applie	d Mec	hanics	3	N	lumber	of study credits: 2	.5 Numbe	r of contact ho	urs: 21	Mand		eaching languag outch / English	ge:
Conditions for a	ourse	particip	pation:	The co	ourse w	ill be also given in Dutch i	if at lea	st 10 students subs	cribe for it						
Conditions for t	est par	ticipati	ion: -												
•	You wil	ll know				this course you will be at e-stressed concrete constr			M-diagram a	nd deflection cu	irve of sta	tically	indeterminat	e beams to the	first and
Test code	Form	at				Description and assess	ment	Content	Weighting	Minimum	Plannin	ng	Inspection	Resit	Inspection
	Verbo	al/Write	ten/Otl	her		type		Link with	Factor (%)	score	test in		of work in	scheduled	of resit in
	Indivi	idually/	'Group					learning			week		week	in week	week
	v	w	0	I	G			outcomes							
TOETS01 (VT)		x		x		Written knowledge test	:	3.1.21	100%	5.5	S2.18		S2.19	S2.20	S2.22

Conditions for course participation: - Conditions for test participation: - Brief description of course content: At the end of this course you will understand the world of dredging and geotechnical and soil characteristics. The dredging activities will be analyzed also under the ecological point of Compulsory literature: - Test code Format Verbal/Written/Other Description and assessment Individually/Group type Outcomes Outcomes	of view. hting Minimum Plannii	best equipment and sy	rstems dependi Resit scheduled	
Conditions for test participation: - Brief description of course content: At the end of this course you will understand the world of dredging and geotechnical and soil characteristics. The dredging activities will be analyzed also under the ecological point of Compulsory literature: - Test code Format Description and assessment type Content Weight Factor Individually/Group Individually/Group outcomes Outcomes	of view. hting Minimum Plannin r (%) score test in	ng Inspection	Resit	Inspection
Brief description of course content: At the end of this course you will understand the world of dredging and geotechnical and soil characteristics. The dredging activities will be analyzed also under the ecological point of Compulsory literature: - Test code Format Verbal/Written/Other Individually/Group Description and assessment type Content Link with learning outcomes Weight Factor	of view. hting Minimum Plannin r (%) score test in	ng Inspection	Resit	Inspection
geotechnical and soil characteristics. The dredging activities will be analyzed also under the ecological point of Compulsory literature: - Test code Format Verbal/Written/Other Individually/Group Content Verbal/Written/Other Individually/Group Other Individually/Group Other Individually/Group Other Verbal/Written/Other	of view. hting Minimum Plannin r (%) score test in	ng Inspection	Resit	Inspection
Format Description and assessment Content Weight Verbal/Written/Other type Link with Factor Individually/Group outcomes outcomes	r (%) score test in			•
Verbal/Written/Other type Link with Factor Individually/Group learning	r (%) score test in			•
v w o l G outcomes	week	week	in week	week
V W O I G				
TOETS01 (VT) x x Written knowledge test 1.1.19; 4.1.4 100	0% 5.5 S2.18	S2.19	S2.20	S2.22
Block 8 / Semester 4		r		
CU23886V1 Title: Project Management 2 Number of study credits: 2.5 Nu Conditions for course participation: The course will be also given in Dutch if at least 10 students subscribe for Students subscribe for	Number of contact hours: 21	•	aching language tch/ English	e:
Conditions for test participation: -				

Brief description of course content: The course prepares you for a professional role in the management of engineering projects by providing you with an understanding of both the people-related and technical requirements necessary for the successful management of engineering projects, as well as the organizational and strategic aspects. This course is designed to introduce course participants to the nature and purpose of project management and to engage with its application in project contexts.

Compulsory lite	rature						00						
Test code	Format Verbal/Written/Other Individually/Group					Description and assessment type	Content Link with learning	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	v	V W O I G			G		outcomes						
TOETS01 (VT)					x	Portfolio	1.1.20; 4.1.5	100%	5.5	S2.18	S2.19	S2.20	S2.22

Block 8 / Sem	ester 4	Ļ														
CU238863	Title:	Projec	t Mana	ageme	nt 2 3y	t ľ	Number	of study credits: 2	2.5	Number	of contact ho	urs: 21	Man		Feaching langua Dutch/ English	ge:
Conditions for a	ourse	particip	pation:	The co	urse w	vill be also given in Dutch	if at lea	st 10 students sub	oscribe	for it. Th	is course is ava	ilable onl	ly for s	tudents enro	lled in the 3 year	s VWO track.
Conditions for t	est par	ticipat	ion: To	partic	ipate t	o toets02(VT), students s	hould ho	ive a passing grad	le for t	toets01(V	Т)					
people-related	and tec e partic erature Form Verbo	hnical i cipants :	require to the ten/Oti	ments nature her	neces	repares you for a profess sary for the successful ma urpose of project manage Description and assess type	anagemo ement a	ent of engineering	g proje n its ap Wei	ects, as we	ell as the orgar	izational	and st		-	
	v	w	0	I	G	-		outcomes								
TOETS01 (VT)								1.1.20; 4.1.5	40%	6	5.5	S2.18		S2.19	S2.20	S2.22
TOETS02 (VT)						Oral assessment		4.1.5; 5.1.1; 6.1.3	60%	0	5.5	S2.19		S2.19	S2.20	S2.20

CU23887V3		Coasta ssiona			opmen	t - Project & Nu	mber of study credits: 3	8.75 Numb	per of contact ho	ours: 30		Teaching langua Dutch/English	ge:
Conditions for	course	partici	pation	: The c	ourse v	vill be also given in Dutch if	at least 10 students sub	scribe for it					
Conditions for	test pa	rticipa	tion: -										
fundamental to Water supply sy	o ensuro ystems	e a safe and st	e and s ructura	ustaina al objec	ble dev ts mus	roject focus on the develop velopment. Project manage t be designed to complete se during which you will wo	ment skills and compete the design of the coasta	ences are reo I area.	quired to plan, m		-		
Verhoeven, N.	014). R (2015).	esearcl Doing	Resear	rch. The	e hows	quantitative and qualitativ and whys of applied resear ng a Research Project. 2nd o	ch. 4th edition. Amster	dam: Boom	Lemma.	vers.			
Test code	Form	at				Description and assessm	ent Content	Weighting	Minimum	Plannin	g Inspection	Resit	Inspection
	est code Format Verbal/Written/Other Individually/Group					type	Link with learning	Factor (%)	score	test in week	of work in week	scheduled in week	of resit in week
	v	W	0	I	G		outcomes						
TOETS01 (VT)			x	x		Field study week (Portfol	io) 8.1.1; 8.2.2; 9.1.2	10%	5.5	Variable	Variable	Variable	Variable
TOETSO2 (VT)	x	x			x	Report and presentation (Portfolio)	2.2.1; 7.2.1; 7.2.2; 7.3.1; 7.3.2; 7.4.1; 8.1.1; 8.1.2; 9.2.1	50%	5.5	S2.17	S2.19	S2.20	S2.22
TOETS03 (VT)		x			x	Portfolio Coastal Enginee 2	ring 1.1.20; 1.3.3; 3.1.4; 3.1.20; 3.1.25; 3.1.26	10%	5.5	S2.17	\$2.19	S2.20	S2.22
TOETS04 (VT)		x x			x	Portfolio Project Management 2	4.1.1; 4.1.5	10%	5.5	S2.17	S2.19	S2.20	S2.22
TOETS05 (VT)		x			x	Portfolio Dredging	4.1.3; 4.1.5	10%	5.5	S2.17	S2.19	S2.20	S2.22
TOETS06 (VT)		x			x	Portfolio Applied Mechar 3	nics 3.1.9	10%	5.5	S2.17	S2.19	S2.20	S2.22

CU11122				only										
011122	Title:	Orient	ation I	nterns	hip	Nur	mber of study credits: 3	0 Numbe	r of contact hou	ırs: 12	Mandatory		eaching languag utch / English	ge:
Conditions for co	urse p	particip	ation:	See ar	ticle 2.2	2.8 in this document for the	e rules of admission to th	ne internship.						
Conditions for tes	st par	ticipati	on: Se	e articl	e 2.2.8	in this document for the ru	iles of admission to the i	nternship.						
assignments are q	quite c ients t eport.	differer hat ma	nt from	the st	udy ass	vork placement you will be ignments, no matter how c ses for or at an organisatior	context-rich they can be	During your	work placement	, you will	be introduce	ed to re	al life situation	s! You will
	Forma					Description and assessme	ent Content	Weighting	Minimum	Plannir	g Inspe	ction	Resit	Inspection
	Verba	ıl/Writt	ten/Otl	her		type	Link with	Factor (%)	score	test in	ofwo	ork in	scheduled	of resit in
	Indivi	dually/	'Group				learning			week⁵	week		in week	week
-	v	w	0		G		outcomes							
TOETS01 (VT)		x		x		Report (Portfolio)	4.1.5; 5.1.1	100%	5.5	S1.18	S1.18	3	S1.20	S1.20
							6.1.3; 8.1.2			S1.20	S1.20)	S2.18	S2.18
							8.2.2; 9.1.2			S2.18	S2.18		S2.20	S2.20
										S2.20	S2.20		52.20	52.20

⁵ The student has right to two attempts per study year. The student makes a selection for the attempts through Osiris student.

Implementation Regulations CER HZ Bachelor program Civil Engineering – full-time Approval study program committee: 24/04/2023. Approval University Council: 04/07/2023. Established by the executive board: 04/07/2023.

CU79085V2	Title	: Coasta	al chall	enge		Nu	mber of study credits: 1	.0,0 Number	r of contact ho	urs: 60	Mandatory	Teaching langua English	ge:
Conditions for c	ourse	particip	oation:	-				÷					
Conditions for t	est pai	rticipat	ion: -										
Brief descriptio	n of co	urse co	ntent:	In this	course	e, you will develop abilities t	to work in a multidiscipl	inary environn	nent. You will w	ork in a gr	oup with colleag	ues from differer	nt study
programs withir	n the b	uilt env	vironme	ent. Th	e coast	al challenge is based on a c	omplex real-life case. Yo	ou will initiate,	design, and sp	ecify the p	roject and learn	and apply tools fo	or
communication			n, mana	agemei	nt, and	innovation.							
Compulsory lite	rature	:-							1				
Test code	Form	nat				Description and assessme	ent Content	Weighting	Minimum	Planning			Inspection
	Verb	al/Writ	ten/Ot	her		type	Link with	Factor (%)	score	test in	of work in	scheduled	of resit in
	Indiv	idually/	/Group				learning			week	week	in week	week
	v	w	0	1	G		outcomes						
TOETS01 (VT)		x		x		Professional developmen	it 8.1.3; 8.1.4;	50%	5.5	S1.17	S1.19	S1.20	S2.1
						(Portfolio)	8.2.2; 9.1.2;						
							9.2.2						
TOETS02 (VT)	x	x			x	End products (Portfolio)	1.1.21;	50%	5.5	S1.17	S1.19	S1.20	S2.1
							1.2.2;1.3.2;						
							1.3.3; 1.3.4;						
							2.1.2; 2.2.2;						
							2.2.3; 3.1.26;						
							7.1.4; 7.2.3;						
							7.3.3; 7.4.2						

	nue	: Advan	iced Co	onstruc	tion Engi	ineering Nu 10,	mber of study credits: 0	Number	of contact hours:		pulsory ce/Elective	Teaching langua English	ge:
Conditions for	course	particip	oation:			1 -							
• The c	ourse v	vill only	be giv	en if at	: least 10	students register for this	elective course.						
• Prope	edeutic	phase p	passed										
• For th	ne 4-yea	ar track	: at lea	st 60 E	Cs obtair	ned in the major phase. I	Ainor or internship pass	sed.					
• For th	ne 3-yea	ar track	: at lea	st 30 E	Cs obtair	ned in the major phase.							
Conditions for t	test pa	rticipat	ion: -										
Brief descriptio	n of co	ourse co	ntent:	: A goo	od <u>Const</u> ı	ruction Engineer not only	has the skills to constru	uct Civil assets,	but also has a goo	od understa	nding of the	underlying desigr	n and
						tial that <u>Design Engineer</u>							
	•	-		•		ioning of an asset during		• •					
						ehabilitate the structure							
						es a solid and broad four Iraulic Structures. You w							
						The course focusses on a							
						nsioned concrete underg							
							100110 \$110010185. 18110	01.41.V WOLKS, 10	undations, dewate	ering systen	ns. constructi	on pits, retaining	structures.
quay walls, jetti	ies, pile					-							
• • •		ed fende	ering, a	and opt	tional hyd	draulic infra, asset manage poperation with the asse	ement processes in pra	actice, technica	l knowledge for co	ondition ass	essment and	rehabilitation of	
infrastructure.	This co	ed fende urse ha	ering, a s been	nd opt develo	tional hyd oped in co	draulic infra, asset mana	ement processes in pra management research	actice, technica group of HZ a	l knowledge for co nd external expert	ondition ass ts from the j	essment and professional f	rehabilitation of	
infrastructure. Compulsory lite	This co	ed fende urse has : De Gij	ering, a s been	nd opt develo	tional hyd oped in co en, M.L.,	draulic infra, asset managed poperation with the asse	ement processes in pra management research neering (2014) Handbo	actice, technica group of HZ a	l knowledge for co nd external expert: (2 nd edition). Lond	ondition ass ts from the j	essment and professional f	rehabilitation of ield.	existing
infrastructure. Compulsory lite	This con erature Form	ed fende urse has : De Gij	ering, a s been it, J.G.,	and opt develo Broeke	tional hycoped in co en, M.L.,	draulic infra, asset managed poperation with the asse CUR Centre For Civil Eng	ement processes in pra management research neering (2014) Handbo	actice, technica group of HZ an ok Quay Walls	l knowledge for co nd external experts (2 nd edition). Lond Minimum Pl	ondition ass ts from the don CRC Pre	essment and professional f ss.	rehabilitation of ield. Resit	existing Inspectio
infrastructure.	This cou erature Form Verb	ed fende urse has : De Gij nat	ering, a s been it, J.G., ten/Ot	nd opt develo Broeke her	tional hycoped in co en, M.L.,	draulic infra, asset mana poperation with the asse CUR Centre For Civil Eng Description and assessm	ement processes in pra t management research neering (2014) Handbo ent Content	actice, technica a group of HZ a ok Quay Walls Weighting	l knowledge for co nd external expert (2 nd edition). Lond Minimum score te	ondition ass ts from the p don CRC Pre Planning	essment and professional f ss. Inspection	rehabilitation of ield. Resit	
infrastructure. Compulsory lite	This cou erature Form Verb	ed fende urse ha: :: De Gij nat al/Writt	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	tional hyd oped in co en, M.L., 1	draulic infra, asset mana poperation with the asse CUR Centre For Civil Eng Description and assessm	ement processes in prati- t management research neering (2014) Handbo ent Content Link with	actice, technica a group of HZ a ok Quay Walls Weighting	l knowledge for co nd external expert (2 nd edition). Lond Minimum score te	ondition ass ts from the don CRC Pre Planning est in	essment and professional f ss. Inspection of work in	rehabilitation of ield. Resit scheduled	existing Inspectio of resit in
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse ha: De Gij nat al/Writt idually/	ering, a s been it, J.G., ten/Ot	nd opt develo Broeke her	tional hyd oped in co en, M.L., 1 G	draulic infra, asset mana poperation with the asse CUR Centre For Civil Eng Description and assessm	ement processes in pra t management research neering (2014) Handbo ent Content Link with learning outcomes	actice, technica a group of HZ a ok Quay Walls Weighting	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w	ondition ass ts from the don CRC Pre Planning est in	essment and professional f ss. Inspection of work in	rehabilitation of ield. Resit scheduled	existing Inspectio of resit in
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has : De Gij nat al/Writh vidually/ W	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	tional hyd oped in co en, M.L., 1 G x I	draulic infra, asset managed poperation with the asse CUR Centre For Civil Eng Description and assessm type	ement processes in pra management research neering (2014) Handbo ent Content Link with learning	actice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w	ondition ass ts from the don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week	rehabilitation of ield. Resit scheduled in week	existing Inspectio of resit ir week
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has : De Gij nat al/Writh vidually/ W	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	tional hycoped in cooped i	draulic infra, asset managed poperation with the asse CUR Centre For Civil Eng Description and assessm type	ement processes in pratimanagement research neering (2014) Handbo ent Content Link with learning outcomes 1.1.9; 1.2.1; 2.1.1; 2.2.1;	actice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w	ondition ass ts from the don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week	rehabilitation of ield. Resit scheduled in week	existing Inspectio of resit in week
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has : De Gij nat al/Writh vidually/ W	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	G	draulic infra, asset manage poperation with the asse CUR Centre For Civil Eng Description and assessm type Portfolio Temporary Works Construction Pit (Portfoli	ement processes in pratimanagement research neering (2014) Handbo ent Content Link with learning outcomes 1.1.9; 1.2.1; 2.1.1; 2.2.1;	ectice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w 5.5 S1	ondition ass ts from the p don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week \$1.09	rehabilitation of ield. Resit scheduled in week S1.10	Inspection of resit in week S1.11
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has : De Gij nat al/Writh vidually/ W	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	G S C C C C C C C C C C C C C	draulic infra, asset manage poperation with the asse CUR Centre For Civil Eng Description and assessm type Portfolio Temporary Works Construction Pit (Portfolio Mid-term exam	ement processes in practimanagement research neering (2014) Handbo ent Content Link with learning outcomes 1.1.9; 1.2.1; 2.1.1; 2.2.1; 3.1.9; 3.1.11; 3.1.22; 3.1.23 1.1.9; 1.2.1;	actice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external experts (2 nd edition). Lond Minimum score te w 5.5 S1	ondition ass ts from the don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week	rehabilitation of ield. Resit scheduled in week	existing Inspectic of resit in week
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has De Gij nat al/Writi idually/ W X	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	G S C C C C C C C C C C C C C	draulic infra, asset manage opperation with the asse CUR Centre For Civil Eng Description and assessm type Portfolio Temporary Works Construction Pit (Portfolio Mid-term exam Underground	ement processes in pratimanagement research neering (2014) Handbo ent Content Link with learning outcomes 1.1.9; 1.2.1; 2.1.1; 2.2.1; 3.1.9; 3.1.11; 3.1.22; 3.1.23 1.1.9; 1.2.1; 2.2.1; 2.2.3;	ectice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w 5.5 S1	ondition ass ts from the p don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week \$1.09	rehabilitation of ield. Resit scheduled in week S1.10	existing Inspection of resit in week S1.11
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has De Gij nat al/Writi idually/ W X	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	G	draulic infra, asset manage opperation with the asse CUR Centre For Civil Eng Description and assessme type Portfolio Temporary Works Construction Pit (Portfolio Mid-term exam Underground Temporary Works	ement processes in practimanagement research neering (2014) Handbo ent Content Link with learning outcomes 1.1.9; 1.2.1; 2.1.1; 2.2.1; 3.1.9; 3.1.11; 3.1.22; 3.1.23 1.1.9; 1.2.1;	ectice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w 5.5 S1	ondition ass ts from the p don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week \$1.09	rehabilitation of ield. Resit scheduled in week S1.10	existing Inspection of resit in week S1.11
nfrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has De Gij nat al/Writi idually/ W X	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	G	draulic infra, asset manage opperation with the asse CUR Centre For Civil Eng Description and assessme type Portfolio Temporary Works Construction Pit (Portfolio Mid-term exam Underground Temporary Works Construction Pit	ement processes in pratimanagement research neering (2014) Handbo ent Content Link with learning outcomes 1.1.9; 1.2.1; 2.1.1; 2.2.1; 3.1.9; 3.1.11; 3.1.22; 3.1.23 1.1.9; 1.2.1; 2.2.1; 2.2.3;	ectice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w 5.5 S1	ondition ass ts from the p don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week \$1.09	rehabilitation of ield. Resit scheduled in week S1.10	existing Inspection of resit i week S1.11
infrastructure. Compulsory lite Test code	This con erature Form Verb Indiv	ed fende urse has De Gij nat al/Writi idually/ W X	ering, a s been it, J.G., ten/Ot /Group	nd opt develo Broeke her	G A C C C C C C C C C C C C C	draulic infra, asset manage opperation with the asse CUR Centre For Civil Eng Description and assessme type Portfolio Temporary Works Construction Pit (Portfolio Mid-term exam Underground Temporary Works	ement processes in pratimanagement research neering (2014) Handbo ent Content Link with learning outcomes 1.1.9; 1.2.1; 2.1.1; 2.2.1; 3.1.9; 3.1.11; 3.1.22; 3.1.23 1.1.9; 1.2.1; 2.2.1; 2.2.3;	ectice, technica group of HZ an ok Quay Walls Weighting Factor (%)	l knowledge for co nd external expert: (2 nd edition). Lond Minimum Pl score te w 5.5 S1	ondition ass ts from the p don CRC Pre Planning est in veek	essment and professional f ss. Inspection of work in week \$1.09	rehabilitation of ield. Resit scheduled in week S1.10	existing Inspection of resit in week S1.11

TOETS03 (VT)	x		x	Portfolio Asset Management	1.1.12; 1.2.1;	25%	5.5	S1.17	S1.19	S1.20	S2.2
				(Portfolio)	4.1.6; 5.1.1;						
					5.1.4; 5.1.5;						
					5.1.6; 6.1.1						
TOETS04 (VT)	x	x		Final exam Asset Management (Hydraulic) Structures (Written knowledge test)	1.1.12; 1.2.1; 3.1.24; 3.1.25; 4.1.6; 5.1.2; 5.1.3; 5.1.4; 5.1.5; 5.1.6	25%	5.5	S1.18	S1.19	S1.20	S2.2

CU79087V1	Title	Urban	Wate	Mana	gemen	t Numbe	r of study credits: 1	0 Number	r of contact hours:			Teaching langua English	ge:
Conditions for	course	particip	ation:							cho			
• The c	ourse v	vill only	be giv	en if at	least 1	.0 students register for this ele	ctive course.						
		phase phase	-			-							
 For the 	ne 4-yea	ar track	: at lea	st 60 E	Cs obta	ained in the major phase. Mino	r or internship pass	ed.					
 For the 	ne 3-yea	ar track	: at lea	st 30 E	Cs obta	ained in the major phase.							
		ernship	•	1.									
Conditions for		•											
•					•	ms are critical infrastructures f			-	•		-	
						kills. About 60% of the course							
	•				•	applying the theory proactively	-		•	• •	-		
						struction and functioning of se is complicated due to the infra							
						nical in-depth knowledge on ho							
		-		-		eveloped in cooperation with t			-		-	•	ie compiete
Compulsory lite			0.000										
Fest code	Form					Description and assessment	Content	Weighting	Minimum P	lanning	Inspection	Resit	Inspectio
	Verb	al/Writ	ten/Ot	her		type	Link with	Factor (%)	score t	est in	of work in	scheduled	of resit in
		idually/				- //	learning		v	/eek	week	in week	week
	v	W	0		G		outcomes						
TOETS01 (VT)	v	x	0	•	x	Portfolio sewer systems	1.1.4; 1.1.16;	30%	5.5 S	1.09	S1.10	S1.10	S1.11
1021301 (VI)		~			~	design (Portfolio)	2.1.2; 2.2.2;	30%	5.5 5	1.09	31.10	51.10	51.11
							2.2.3; 3.1.1;						
							3.1.9; 3.1.25						
		x			х	Portfolio asset management	1.1.20; 1.1.21;	30%	5.5 S	1.18	S1.19	S1.20	S2.2
TOETS02 (VT)						(Portfolio)	1.3.2; 1.3.3;						
TOETSO2 (VT)													
TOETS02 (VT)							1.3.4; 5.1.1;						
TOETSO2 (VT)							5.1.2; 5.1.3;						
						Final evens (M/states	5.1.2; 5.1.3; 5.1.4; 5.1.6	400/		1 10	<u> </u>	61.20	
		x		x		Final exam (Written	5.1.2; 5.1.3; 5.1.4; 5.1.6 1.1.4; 1.1.12;	40%	5.5 S	1.18	\$1.19	S1.20	S2.2
		x		x		Final exam (Written knowledge test)	5.1.2; 5.1.3; 5.1.4; 5.1.6 1.1.4; 1.1.12; 1.1.20; 1.1.21;	40%	5.5 S	1.18	\$1.19	\$1.20	S2.2
		x		x		•	5.1.2; 5.1.3; 5.1.4; 5.1.6 1.1.4; 1.1.12; 1.1.20; 1.1.21; 1.3.2; 2.2.2;	40%	5.5 S	1.18	S1.19	S1.20	\$2.2
		×		x		•	5.1.2; 5.1.3; 5.1.4; 5.1.6 1.1.4; 1.1.12; 1.1.20; 1.1.21;	40%	5.5 S	1.18	S1.19	S1.20	\$2.2
TOETS02 (VT) TOETS03 (VT)		x		x		•	5.1.2; 5.1.3; 5.1.4; 5.1.6 1.1.4; 1.1.12; 1.1.20; 1.1.21; 1.3.2; 2.2.2; 3.1.1; 3.1.9;	40%	5.5 S	1.18	S1.19	\$1.20	\$2.2

The course w	ill only be given if at least 8 students	s subscribe for this elective course				
CU20700v1	Title: Advanced Water Technolog		Number of contact hours	: 90 Electi	ve Teach	ing language: Englis
Conditions fo	r course participation:					
• Pro	pedeutic exam passed					
• At l	east 120 EC obtained (including prov	isional credits)				
		nt for the Civil Engineering 3-year track).				
		nd passed AET course: Water Pollution and Treatment (C				
	l Engineering applicants should have de of 7.5 or higher.	a biology and chemistry profile from high school and sho	ould have completed CE co	ourse: Sanitar	y Engineering (CL	23880) with a pass
Conditions fo	r test participation: not applicable					
•	ion of course content:					
This course w	ill build on the students' existing bas	ic knowledge of wastewater treatment theory and technote and technote and technote and they will be all the source and the so				
This course w quality measu (source) to qu	ill build on the students' existing bas irements are needed for a specific w iality B (product). Once they have set	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h	ble to set up a water treat	ment scheme	e to treat the wat	er from quality A
This course w quality measu (source) to qu system on ma	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir	ater source and desired water product and they will be a	ble to set up a water treat	ment scheme	e to treat the wat	er from quality A
This course w quality measu (source) to qu system on ma Learning outo	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir comes: 1.1, 2.1, 2.2, 3.1, 6.1, 9.1	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h	ble to set up a water treat	ment scheme	e to treat the wat	er from quality A
This course w quality measu (source) to qu system on ma Learning outo	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h	ble to set up a water treat how to calculate the wate	ment scheme	e to treat the wat	er from quality A how to monitor the
This course w quality measu (source) to qu system on ma Learning outo Compulsory I	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir comes: 1.1, 2.1, 2.2, 3.1, 6.1, 9.1	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h	ble to set up a water treat how to calculate the wate Weighting	ment scheme	e to treat the wat iter recovery and Planning test	er from quality A
This course w quality measu (source) to qu system on ma Learning outo Compulsory I	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir in performance not applicable	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h g statistical analysis and optimisation.	ble to set up a water treat how to calculate the wate	ment scheme r balance, wa	e to treat the wat iter recovery and	er from quality A how to monitor the
This course w quality measu (source) to qu system on ma Learning outo Compulsory I	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir in performance not applicable	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h g statistical analysis and optimisation.	ble to set up a water treat how to calculate the wate Weighting	ment scheme r balance, wa Minimum	e to treat the wat iter recovery and Planning test	er from quality A how to monitor the Resit scheduled
This course w quality measu (source) to qu system on ma Learning outo Compulsory I	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir in performance not applicable	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h g statistical analysis and optimisation.	ble to set up a water treat how to calculate the wate Weighting	ment scheme r balance, wa Minimum	e to treat the wat iter recovery and Planning test	er from quality A how to monitor the Resit scheduled
This course w quality measu (source) to qu system on ma Learning outo Compulsory I Test code	ill build on the students' existing bas irements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir in performance not applicable	ater source and desired water product and they will be all up a theoretical treatment scheme, they will also learn h g statistical analysis and optimisation.	ble to set up a water treat how to calculate the wate Weighting	ment scheme r balance, wa Minimum	e to treat the wat iter recovery and Planning test	er from quality A how to monitor the Resit scheduled
This course w quality measu (source) to qu system on ma Learning outo	ill build on the students' existing bas irrements are needed for a specific wa iality B (product). Once they have set in performance parameters, includir comes: 1.1, 2.1, 2.2, 3.1, 6.1, 9.1 iterature: not applicable Assessment type	ater source and desired water product and they will be all to up a theoretical treatment scheme, they will also learn h og statistical analysis and optimisation.	ble to set up a water treat how to calculate the wate Weighting Factor (%)	ment scheme r balance, wa Minimum score	e to treat the wat iter recovery and Planning test in week	er from quality A how to monitor the Resit scheduled in week

Semester 7 4	year	track	/ Sen	nester	5 3 y	ear track								
CU75044V1	Titl	e: Cha	inge, Y	′es you	Can (CYC)	Numb	er of study credits: 5	Contac	t hours: 40	Electiv	e	Teaching langua	age: English
Conditions for a	ours	e part	icipati	i on: no	ne									
Conditions for t	est p	articip	pation	: none										
Brief descriptio	n of d	course	conte	ent: In	terms	of content, the sof	t skills ir	n the field of conversation tec	hniques are p	racticed in this	s course (how	do you deal	with a bad new	s conversation,
								pes not listen, etc.). The hard						
the project.											-			
Compulsory lite	eratu	re: noi	ne											
Test code				Assessment type		Content (Refer to IR-CER-	Weighting	Minimum	Planning test in	Inspection of work in		Inspection of resit in week		
	v	w	0	I	G			НZ – В – НВО ІСТ)	Factor (%)	score	week	week	scheduled in week	of resit in week
TOETS01 (VT)	Х			Х		Assessment		7.3K	50%	5.5	BW 8 or 9	≥5 WD	BW 10	< 10 WD
TOETS02 (VT)		Х		Х		Report		2.2K	50%	5.5	BW 8 or 9	≥5 WD	BW 10	< 10 WD
Semester 7 4	year	track	/ Sen	nester	5 3 y	ear track								
CU75043V1	Titl	e: Ma	king B	usines	s Intel	ligent (MBI)	Numb	er of study credits: 5	Contac	t hours: 15	Electiv	e	Teaching langua	age: English
Conditions for a	ours	e part	icipati	i on: no	ne									
Conditions for t	est p	articip	pation	: none										
Brief descriptio	n of c	course	conte	ent: In	terms	s of content, variou	s (advar	nced) data sets are used in th	is course to ul	timately displa	ay self-invente	d KPIs in a B	l report.	
Compulsory lite	eratu	re: noi	ne			•		·					·	
Test code	For	mat				Assessment type		Content (Refer to IR-CER-	Weighting	Minimum	Planning	Inspection	Resit	Inspection
	v	w	0		G	1		HZ – B – HBO ICT)	Factor (%)	score	test in	of work in	scheduled	of resit in weel
	v	vv	0	'	G						week	week	in week	
TOETS01 (VT)	X	Х		Х		Portfolio + optior	nal	2.1E,2.1F,2.2C,2.3A,2.3B	100%	5.5	BW 8 or 9	≥5 WD	BW 10	< 10 WD
						assessments								

Semester 8 4 y	ear tra	ck/ Se	emeste	er 6 3 y	year tr	ack							
CU11021V1	Title	: Final 1	thesis			Nur	nber of study credits:	30 Nur	nber of contact h	ours: - I	Mandatory	Teaching langua Dutch/English	ge:
Conditions for co	ourse pa	articipa	ation: S	See art	icle 2.2.	11 of this document.							
Conditions for te	est parti	icipatio	on: See	e article	e 2.2.11	of this document.							
						esearch: investigate a comp							
				-		nanual and all communicati				on is in Engl	ish because this	is combined for t	he Dutch and
		udents	can ch	oose to	o do the	eir graduation internship, su	upervision and reports	in English	or Dutch.				
Compulsory liter			- 1 · · ·					. .					
	-				•	antitative and qualitative r		-	-	vers.			
		-				nd whys of applied research							
Test code			п. (201	LUJ. De	signing	a Research Project. 2nd ed		Weighti		Diamaina	Increatio	n Resit	Inspection
Test code	Form		H = = /04			Description and assessme	Link with	Factor (9	0	Planning test in	g Inspection of work i		of resit in
			tten/Ot			type				week	week	Jeneduleu	week
	inaiv	iauaiiy	/Group)			learning				Week	in week	WCCK
	V	W	0	I	G		outcomes						
TOETS01 (VT)	x	x		x		Report and portfolio:	1.1.21; 1.2.2;	50%	5.5	S1.18/1	9 S1.18/19	9 S2.19/20	S2.19/20
						Professional competence				OR	OR	OR	OR
						(Portfolio)	1.3.4; 2.1.2; 2.2.1;2.2.2;			S2.19/2	0 S2.19/20		Last 2
							2.2.3; 3.1.26					weeks of	weeks of
												the study	the study
												year	year
TOETS02 (VT)	x	x		x		Report and portfolio: HBC		50%	5.5	S1.18/1	9 S1.18/19) S2.19/20	S2.19/20
						competences (Portfolio)	7.3.3; 7.4.2;			OR	OR	OR	OR
							8.1.3; 8.1.4; 8.2.2			S2.19/2	0 S2.19/20) Last 2	Last 2
							0.2.2					weeks of	weeks of
												the study	the study
												year	year