Water Management

Aquatic Ecotechnology

Delta Management

Spatial Planning & Design

Information for exchange student

2022-2023

Contents

General information for exchange students in the programme Water Management

Exchange students can either choose to follow courses from our Water Management programme or work on a real project (30ECTS) related to our study programme.

Courses in English

The Bachelor study of Water Management is a four year, applied bachelor study programme. Exchange students choose from a number of courses from the study programme with a total study load of 30 ECTs per semester.
Semesters 3, 5 and 7 are from 1st of September up to end of January (fall semester).
Semesters 2, 4 and 6 from 1st of February to end of June (spring semester).

Semester 3 and 4 are 2nd year courses; Semester 5 and 6 are 3rd year courses (minor project); Semester 7 is 4th year courses.

English courses offered in 3 specializations.

The Bachelor of Water Management is one study programme with three different specializations, Aquatic Ecotechnology, Delta Management and Spatial Planning & Design.

We advise to choose all courses from the same semester of one academic year and of one specialization, to prevent that courses overlap in the schedule. If you choose a mixture of two or even more semesters and specializations the lectures might be scheduled at the same time and also the level will be different per semester. It is most of the time not possible to attend all lectures. Therefore, if you choose a mix, we advise you to have extra courses in your Learning Agreement, which have been approved by your home institute, so that you have a 'back up' plan if courses do overlap in the schedule.

More detailed information on the study programme can also be found on the website and in our study programme regulation. More information about 'how to apply' can be found here.

Course offer Specialization Aquatic Ecotechnology:

Semester	Modules	ECTS
3	Ecological Water Quality Water Pollution & Treatment	15 12.5
4	Hydrology Ecological Engineering	12.5 12.5
7	Integrated Coastal Challenge (multi-disciplinary project) Aquaculture Ecological Risk Assessment Advanced Water Technology Urban Water and Asset Management	10 10 10 10 10

Detailed course descriptions as from page 6.

Course offer Specialization Delta Management:

Semester	Modules	ECTS
3	Vision development (applied in European Deltas) Adaptive Planning for Climate Change (applied in European Deltas)	15 12,5
4	Risk and Disaster Management (applied in Mississippi Delta) Strategic planning for resilient Deltas (applied in Mississippi delta)	12,5 12,5
7	System analysis & Planning for circularity (applied in Mekong Delta) Coastal Challenge	20 10

Detailed course descriptions as from page 21.The names of the blocks of Delta Management and Spatial Planning & Design are the same, but not all courses are the same.

Course offer Specialization Spatial Planning & Design:

Semester	Modules	ECTS
3	Vision development (applied in European Deltas) Adaptive Planning for Climate Change (applied in European Deltas)	15 12,5
4	Risk and Disaster Management (applied in Mississippi Delta) Strategic planning for resilient Deltas (applied in Mississippi delta)	12,5 12,5
7	System analysis & Planning for circularity (applied in Mekong Delta) Coastal Challenge	20 10

Detailed course descriptions as from page 41. The names of the blocks of Delta Management and Spatial Planning & Design are the same, but not all courses are the same.

Optional courses especially for international students

CU34638	Dutch Culture & Languages	2 ECTS

This course will be offered at the Vlissingen Campus.

VCC3842	Peer project	1.25 ECTS

The Peer project is to improve contact between Dutch and foreign students at HZ. Dutch students help foreign students to settle in Vlissingen so that they have a good time in Holland and at HZ. Experiences and friendship gathered by this project will hopefully enable Dutch students to study in other countries as well.

Projects of 30 ECTS

You will work on and gain experience in a real project (30 ECTS). Stakeholders and experts from the work field are looking forward to collaborate with you and to find solutions to the challenges they currently encounter. Your contribution will be of direct use to them, and future minor participants will build on your results.

Topics related to our Water management programme are;

- Building with Nature
- Climate Adaption (formerly known as Water Safety & Spatial Planning)
- Water Technology
- Aquaculture

To work on a project an application must be handed in before May 1st (fall semester) or November 1st (spring semester); a limited number of places is available. Students have to submit a motivation letter and may be asked to do a Skype interview in order to be selected to join the Research minor.

More detailed information on these projects can be found here under “projects”.

SEMESTER 3 AET Block 5 Ecological Water Quality & Block 6 Water Treatment

Block 5/ Semester 3

CU79103V2	Title: Principles of Data Analysis	Number of study credits: 2.5	Number of contact hours: 24	Mandatory	Teaching language: English

Conditions for course participation: not applicable

Conditions for test participation: not applicable

Brief description of course content:

Student will learn to prepare data sets for analysis (data management), methods to summarize and describe a data set (descriptive analysis), basic methods to test for statistical significance, to visualise the data in a clear and concise way, and to answer research questions based on data.

Compulsory literature: Excel 2007 or higher

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		*x*	*x*	*x*		Portfolio	7.1.2	40%	4.0	S1.8	S1.9	S1.10	S1.12
TEST02 (VT)		*x*	*x*	*x*		Written knowledge test	6.1.1, 6.1.2	60%	5.5	S1.8	S1.9	S1.10	S1.12

Block 5 / Semester 3					
CU20590V1	**Title: Concepts of Ecological Water Quality**	**Number of study credits: 5,0**	**Number of contact hours: 44**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable.					
Conditions for test participation: not applicable.					
Brief description of course content: You will deal with an important water issue: water quality. In this module you also learn how to monitor, analyze causes and effects of changes in water quality. And what the ecological principles (interaction between chemistry and biology) are behind it and how these are related to different water systems like rivers, lakes, estuaries and seas. In this course 'concepts' , you also learn what policy tools, like European Water Framework Directive , are used to access the quality of water bodies and the appropriate measures to be taken.					
Compulsory literature: *Ecology of Aquatic Systems*, Dobson & Frid, second edition					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST 1 (VT)		*x*		*x*		Written knowledge Test	1.1 , 1.2, 2.1 (table 3)	100%	5.5	S1.8	S1.9	S1.10	S1.11-13

Block 5 / Semester 3					
CU20591V1	**Title: Applied Ecological Water Quality**	**Number of study credits: 5,0**	**Number of contact hours: 44**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable.					
Conditions for test participation: complete attendance to the field week.					
Brief description of course content: You will deal with an important water issue: water quality. In this course 'applied' you will apply the knowledge and skills from the other two courses 'concepts' and 'in practice' in specific water systems. Meaning that you will prepare and carry out ecological water quality measurements in the field. Identify the organisms found and analyze physical, chemical and biological data. And based on prevailing policy instruments indicate the quality. Finally you are asked to evaluate what appropriate measures can be taken to improve the ecological water quality.					
Compulsory literature: *Ecology of Aquatic Systems*, Dobson & Frid, second edition					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST 1 (VT)	*x*	*x*		*x*	*x*	Portfolio	2.2, 3.2, 4.1, 6.1, 7.1, 8.1, 8.2 (table 3)	100%	5.5	S1.8	S1.9	S1.10	S1.11-13

Blok 5 / Semester 3											
CU20592V1	**Title: Ecological Water Quality in Practise**					**Number of study credits: 2,5**		**Number of contact hours: 22**		**Mandatory**	**Teaching language: English**
Conditions for course participation: Agreement to laboratory instructions.											
Conditions for test participation: Presence at all lab practicals is compulsory.											
Brief description of course content: You will deal with an important water issue: water quality. In this course ' in practice', you will learn specific tools to assess the water quality based on the presence of organisms and pigments. Apart from that you learn in an experimental setting how the role of specific organisms like filter feeders, in the food chain can be determined based on the processes measured. And you will work with a computer model, used in water management practice, to analyze causes and feasible measures to improve water quality in lakes.											
Compulsory literature: Labkit and lab coat											
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST 1 (VT)		*x*			*x*	Portfolio	6.1, 7.1 (table 3)	100%	5.5	S1.8	S1.9	S1.10	S1.11-13

Block 6 / Semester 3											
CU20593v1	**Title: Concepts of water pollution and treatment**					**Number of study credits: 5.0**		**Number of contact hours: 55**		**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable											
Conditions for test participation: not applicable											
Brief description of course content: In this module, you will investigate the possibilities of combatting poor water quality with various treatment techniques. During this module you will learn about the water system and how to monitor its status. You will use calculations to determine the effect of different discharges on a water system and how you can limit these effects through water treatment. Treatment types that will be investigated include biological, chemical and physical.											
Compulsory literature: not applicable											
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST 1 (VT)		*x*		*x*		Written knowledge test	1.1 (table 3)	100%	5.5	S1.18	S1.20	S2.10	S2.12

Block 6 / Semester 3												
CU20595v1	**Title: Applications of water pollution and treatment**					**Number of study credits: 5.0**		**Number of contact hours: 50**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Abiding by laboratory instructions and behaving safely in the lab												
Conditions for test participation: not applicable												
Brief description of course content: In the 'Applied' project, you will work on a problem for a local company to help them to try and solve a water quality issue that they have, by producing a design for a treatment technique. You will report your results and final design back to the company at the end of the project.												
Compulsory literature: not applicable												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST 1 (VT)		*x*		*x*	*x*	individual and group assignments Portfolio	2.1, 2.2, 3.2, 4.1, 6.1, 7.1, 8.1 (table 3)	100%	5.5	S1.18	S1.19	S1.20	S2.1

Block 6 / Semester 3												
CU20594v1	**Title: Water pollution and treatment in practice**					**Number of study credits: 2.5**		**Number of contact hours: 22**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Abiding by laboratory instructions and behaving safely in the lab												
Conditions for test participation: not applicable												
Brief description of course content: During the 'In practice' lab sessions you will learn how to perform water quality analysis of certain essential water quality parameters in the world of water treatment. Besides the lab skills you learn to use balances to analyze a water system. Water and mass balances will be applied to analyze both natural water systems and a waste water treatment system. You also learn to use some analysis tools in GIS.												
Compulsory literature: not applicable												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST 1 (VT)		*x*			*X*	group assignments Portfolio	6.1, 7.1, (table 3)	100%	5.5	S1.18	S1.19	S1.20	S2.1

SEMESTER 4 AET Block 7 Hydrology & block 8 Eco Engineering

Block 7 / Semester 4												
CU20611v4	**Title: Concepts of hydrology**			**Number of study credits: 5,0**		**Number of contact hours: 38**			**Mandatory**		**Teaching language: English**	
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course is explaining the theory about rural water requirements in polders; water in the saturated and unsaturated zone, managing the water levels, small hydraulic structures, wetlands. You apply the knowledge in calculations.												
Compulsory literature:												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)			x	x		Portfolio	1.1	20%	5.5	S2.3	S2.4	S2.10	S2.13
TEST02 (VT)		x		x		Written knowledge test	1.1	70%	5.5	S2.8	S2.9	S2.10	S2.13
TEST03 (VT)			x		x	Portfolio	1.1	10%	5.5	S2.4	S2.5	S2.10	S2.13

Block 7 / Semester 4													
CU20616v1	**Title: Applied hydrology**					**Number of study credits: 5,0**			**Number of contact hours: 20**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable													
Conditions for test participation: Not applicable													
Brief description of course content: In this course the rural problems of water excesses and fresh water shortages in the delta are explored. The course focusses on designing water solutions for stakeholders in agriculture.													
Compulsory literature:													
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)	x	x		x		Portfolio	1.2, 2.1, 2.2, 5.1, 8.1, 8.2, 9.1, 9.2	100%	5.5	S2.8	S2.9	S2.10	S2.13

Block 7 / Semester 4													
CU20615v1	**Title: Hydrology in practice**					**Number of study credits: 2,5**			**Number of contact hours: 22**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable													
Conditions for test participation: Not applicable													
Brief description of course content: In this course you will learn how to work with two software systems: a system to model hydraulic water systems ‘Sobek’ and a GIS system ‘ARC GIS’													
Compulsory literature:													
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		(Work place) Assessment	2.1, 3.1	100%	5.5	S2.8	S2.9	S2.10	S2.12

Block 8 / Semester 4					
CU20617V4	**Title: Concepts of Eco Engineering**	**Number of study credits: 5**	**Number of contact hours: 24**	**Mandatory**	**Teaching language: English**

Conditions for course participation: Not applicable.

Conditions for test participation: Not applicable.

Brief description of course content: Eco engineering is the design of sustainable ecosystems that integrate human society with its natural environment for the benefit of both. Threats like loss in biodiversity and habitats, climate change and sea level rise make eco engineering necessary. In this module the focus is on things like building with nature, nature-based solutions and working with nature in delta areas.

In *concepts* you will get insight into coastal protection through measures that are based on natural materials and processes, that also increase the landscape and natural values of the area. The focus is on the interactions and feedback loops between hydrology (waves, tides, currents), morphology (sediment transport, erosion, sedimentation) and ecology (adaptations of species to harsh environments, biodiversity, ecosystem engineers as oysters and mussels).

Compulsory literature: Literature available on HZ Learn.

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01		x		x		Ethics Written knowledge test	1.2	20%	5.5	15	17	20	22
TEST02		x		x		Eco engineering Written knowledge test	1.1	80%	5.5	18	19	20	22

Block 8 / Semester 4					
CU20620V4	**Title: Applied Eco Engineering**	**Number of study credits: 5**	**Number of contact hours: 39**	**Mandatory**	**Teaching language: English**

Conditions for course participation: Not applicable.

Conditions for test participation: Not applicable.

Brief description of course content: Eco engineering is the design of sustainable ecosystems that integrate human society with its natural environment for the benefit of both. Threats like loss in biodiversity and habitats, climate change and sea level rise make eco engineering necessary. In this module the focus is on things like building with nature, nature-based solutions and working with nature in delta areas.

In *applied* you will produce an own experimental design in a research setting to tackle coastal safety issues and to increase biodiversity in the Dutch delta. You will work in small groups to analyze maps and data and produce innovative ideas for further research.

Compulsory literature: Not applicable.

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01			x		x	research proposal Assignment	1.2, 1,3, 2.2, 6.1, 7.1, 8.1, 8.2, 9.1, 9.2	20%	5.5	14	17	20	22
TEST02			x		x	research report Assignment	1.2, 1,3, 6.1, 7.1, 8.1, 8.2, 9.1, 9.2	80%	5.5	18	19	20	22

Block 8 / Semester 4					
CU20618V1	**Title: Eco Engineering in practice**	**Number of study credits: 2.5**	**Number of contact hours: 24**	**Mandatory**	**Teaching language: English**
Conditions for course participation: Not applicable.					
Conditions for test participation: Not applicable.					
Brief description of course content: Eco engineering is the design of sustainable ecosystems that integrate human society with its natural environment for the benefit of both. Threats like loss in biodiversity and habitats, climate change and sea level rise make eco engineering necessary. In this module the focus is on things like building with nature, nature-based solutions and working with nature in delta areas. You will *practice* with several eco-engineering tools and software. Concepts and how to apply them will be explained for ecotope maps, suitability maps and hypsometric curves. You will apply them in several research cases.					
Compulsory literature: Not applicable.					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01			x	x		Portfolio	9.1	100%	5.5	13-17	18	20	22

SEMESTER 7 AET

Block 13 & 14 / Semester 7					
CU79085V1	**Title: Integrated coastal challenge**	**Number of study credits: 10**	**Number of contact hours: 60**	**Mandatory**	**Teaching language: English**
Conditions for course participation: -					
Conditions for test participation: -					
Brief description of course content: In this course, you will develop abilities to work in a multidisciplinary environment. You will work in a group with colleagues from different study programs. The coastal challenge is based on a complex real-life case of a client. It uses the principles of integrated coastal zone management as a framework. You will initiate and design the project and also learn and apply tools for communication, collaboration, management, and innovation.					
Compulsory literature: -					

Test code	**Format**					**Description and assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*x*		*x*		Assessment professional development (Portfolio)	8, 9 (table 3)	40%	5.5	S1.19	S1.19	S1.20	S2.2
TEST02 (VT)		*x*			*x*	End products (Portfolio)	1, 2, 3, 7, 8 (table 3)	40%	5.5	S1.17	S1.18	S1.19	S1.20
TEST03 (VT)	*x*				*x*	Presentation	8, 9 (table 3)	20%	5.5	S1.18	S1.19	S1.20	S2.2

Block 13 & 14 / Semester 7					
CU20700v1	**Title: Advanced Water Technology**	**Number of study credits: 10.0**	**Number of contact hours: 90**	**Elective**	**Teaching language: English**

Conditions for course participation:

- The course will only be given if at least 8 students subscribe for this elective course
- Propedeutic exam passed
- At least 120 EC obtained (including provisional credits)
- Internship OR Minor passed
- AET applicants should have completed and passed AET course: Water Pollution and Treatment (CU20593)
- Civil Engineering applicants should have a biology and chemistry profile from high school and should have completed CE course: Sanitary Engineering (CU23880) with a pass grade of 7.5 or higher.
- Civil Engineering applicants should register for the course by the end of May 2022 by contacting their study career coach

Conditions for test participation: not applicable

Brief description of course content:

This course will build on the students' existing basic knowledge of wastewater treatment theory and technologies used. During this course the student will learn to determine what water quality measurements are needed for a specific water source and desired water product and they will be able to set up a water treatment scheme to treat the water from quality A (source) to quality B (product). Once they have set up a theoretical treatment scheme, they will also learn how to calculate the water balance, water recovery and how to monitor the system on main performance parameters, including statistical analysis and optimisation.

Compulsory literature: not applicable

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		*x*		*x*		Concepts of Advanced Water Technology Portfolio	1.1, 6.1 (Table 1)	25%	5.5	S1. Wk 39-3	S1. Wk 39-3	S1. Wk 39-5	S1. Wk 39-5
TEST02 (VT)		*x*		*x*	*x*	Applications of Advanced Water Technology portfolio	1.2, 1.3, 2.1, 3.1, 7.1 (Table 1)	50%	5.5	S1. Wk 39-3	S1. Wk 39-3	S1. Wk 39-5	S1. Wk 39-5
TEST03 (VT)			*x*	*x*	*x*	Advanced Water Technology in Practice Portfolio	1.1, 7.2 (Table 1)	25%	5.5	S1. Wk 39-3	S1. Wk 39-3	S1. Wk 39-5	S1. Wk 39-5

Block 13 & 14 / Semester 7					
CU79044v1	**Title: Ecological Risk Assessment**	**Number of study credits: 10**	**Number of contact hours: 70**	**Elective**	**Teaching language: English**

Conditions for course participation:

- The course will only be given if at least 8 students subscribe for this elective course
- Propaedeutic exam passed
- At least 120 EC obtained (including provisionary credits)
- Internship OR Minor passed

Conditions for test participation: To be allowed to participate in TEST04 (VT) approval of the literature review is required

Brief description of course content:

During the course, you will make an ecological risk assessment on a project that is being carried out or planned and can have an environmental impact. Examples of these projects are dumping of polluted dredging sludge or the use of LD steel slag as substrate for dikes. For this, practical laboratory skills and theoretical knowledge about ecotoxicology is necessary in order to analyse and predict adverse effects of pollution on the aquatic environment. Effects will be studied at different levels, in particular from the level of molecules to the level of ecosystems. In order to come up with a well-founded conclusion on ecotoxicological effects, you need knowledge on the behaviour of chemical substances in the abiotic and biotic environment. The biotic environment can be studied at the level of the cell, tissue, organism, population, community or ecosystem. You will learn what guiding principles are in environmental policy on different levels (UN, EU, national, regional) and what legal policy instruments are, which are used in practise. For the legal instrument environmental impact assessment (EIA) you will go through the whole procedure of an impact assessment, in different roles by means of a case study. In such a way you learn the pro's and con's of EIA.

Compulsory literature: *Ecotoxicology Essentials Environmental Contaminants and Their Biological Effects on Animals and Plants*, 1st Edition - April 15, 2016

- Author: Donald Sparling
- Paperback ISBN: 9780128019474
- eBook ISBN: 9780128019610

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		*x*		*X*		mid-term Ecotoxicology (I) written knowledge test	1.1, 1.3, 5.1, 7.2 (table 1)	30%	5.5	S1.8	S1.9	S1.10	S2.1
TEST02 (VT)		*x*		*X*		Portfolio (G)	2.1, 3.1, 4.1 , 6.1, 7.3 (table 1)	25%	5.5	S1.17	S1.18	S1.19	S1.20
TEST03 (VT)		*x*		*X*		Report: Environmental Impact Assessment (G) Assignment	2.1, 2.2, 3.1, 6.1, 7.2, 8.2, 9.2 (table 1)	30%	5.5	S1.17	S1.19	S1.20	S2.1
TEST04 (VT)	*x*				*x*	Poster presentation	1.1, 7.1, 7.2 (table 1)	15%	5.5	S1.7	S1.7	S1.9	S2.1

Block 13 & 14 / Semester 7					
CU79043V1	**Title: Aquaculture**	**Number of study credits:10**	**Number of contact hours:88**	**Elective**	**Teaching language: English**

Conditions for course participation:

- The course will be given only if at least 8 students subscribe to this elective course
- Propaedeutic exam passed
- At least 120 EC obtained (including provisionary credits)
- Internship or minor passed
- Excursions: participation is mandatory

Conditions for test participation: Not applicable

Brief description of course content:

This introductory course to aquaculture is an elective course, in which the focus will primarily be on the cultivation of saltwater organisms and the setup of an aquaculture business case. More and more shellfish and fish, crops like Salicornia, and also for instance ragworms are being cultivated under controlled circumstances. There is also a large sector still cultivating in natural areas, which brings its own challenges. The large amount of input from experts of the sector (guest lectures and excursions) in this course and the various case studies mean you will get a good impression of all the different aspects of aquaculture, both in the Netherlands as well as globally. You will learn about the biology of the organisms, the technical aspects of culturing (reproduction), the cultivation systems, sustainability of aquaculture, the legislation, animal welfare, health management and economic aspects. In addition you will get a taste for cost price calculations, how to make a financial business plan, and how to bring your chosen product to the market.

Compulsory literature:

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		*x*		*X*		Written knowledge test	1.1, 1.2, 7.2	25%	5.5	S1.18	S1.19	S1.20	S1.22
TEST02 (VT)		*x*			*X*	Paper assignment	2.1, 2.2, 3.1, 7.3, 8.1, 8.2, 8.3, 9.5, 9.6	40%	5.5	S1.18	S1.19	S1.20	S1.22
TEST03 (VT)		*X*			*x*	Paper Assignment	1.3, 2.2, 5.1, 8.2, 8.3	25%	5.5	S1.13	S1.15	S1.19	S1.21
TEST04 (VT)	*x*				*x*	Presentation	1.1, 1.2, 1.3, 8.4	10%	5.5	S1.15	S1.16	S1.19	S1.21

Block 13 & 14 / Semester 7 for four year track only (240 EC)					
CU79087V1	**Title: Urban Water Management**	**Number of study credits: 10**	**Number of contact hours: 70**	**Elective**	**Teaching language: English**
Conditions for course participation: The course will only be given if at least 10 students subscribe for this elective course					
Conditions for test participation: -					
Brief description of course content: : Sewer systems are critical infrastructures from technical, environmental and management viewpoints. The course takes advantage of this scenario to develop several cross-discipline and transferable skills. About 60% of the course focuses on sewer systems design, from the calculation of wastewater and rainwater input to the sizing of the ducts and the pumping stations. This requires applying the theory proactively and tailoring the solution to the particular case study, as the design cannot rely on comprehensive manuals such as the Eurocode. Proper design, construction and functioning of sewer systems are crucial in order to avoid pollution of soil and water. The remaining 40% of the course deals with management and maintenance, which is complicated due to the infrastructure being underground and prone to deteriorating. You will learn how to apply Asset Management skills, from the underlying way of thinking to technical in-depth knowledge on how to recover aging infrastructures. The best Engineers have knowledge about all aspects of the complete life cycle of infrastructure. This course has been developed in cooperation with the asset management research group of HZ and external experts from the professional field.					
Compulsory literature: -					

Test code	**Format**					**Description and assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*x*			*x*	Portfolio sewer systems design (Portfolio)	1.1, 2.1, 3.1, 7.2, 8.1 (table 1)	30%	5.5	S1.08	S1.09	S1.10	S1.11
TEST02 (VT)		*x*			*x*	Portfolio asset management (Portfolio)	1.1, 1.3, 4.1, 5.1, 8.2, 9.2 (table 1)	30%	5.5	S1.18	S1.19	S1.20	S2.2
TEST03 (VT)		*x*		*x*		Final exam (Written knowledge test)	1.1, 1.3, 2.1, 2.2, 3.1, 4.1, 5.1 (table 1)	40%	5.5	S1.18	S1.19	S1.20	S2.2

SEMESTER 3 DM Block 5 Vision Development & Block 6 Adaptive Planning for Climate Change

Block 5 / Semester 3

CU79103V2	Title: Principles of Data Analysis	Number of study credits: 2.5	Number of contact hours: 24	Mandatory	Teaching language: English

Conditions for course participation: not applicable

Conditions for test participation: not applicable

Brief description of course content:

Student will learn to prepare data sets for analysis (data management), methods to summarize and describe a data set (descriptive analysis), basic methods to test for statistical significance, to visualise the data in a clear and concise way, and to answer research questions based on data.

Compulsory literature: Excel 2007 or higher

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		*x*	*x*	*x*		Portfolio	7.1.2	40%	4.0	S1.8	S1.9	S1.10	S1.12
TEST02 (VT)		*x*	*x*	*x*		Written knowledge test	6.1.1, 6.1.2	60%	5.5	S1.8	S1.9	S1.10	S1.12

Block 5 / Semester 3												
CU79025v1	**Title: Vision development theory**					**Number of study credits: 3.0**		**Number of contact hours: 26**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers theories about vision development. You will learn how to formulate a vision by using scenarios based on different uncertainties and driving forces. Furthermore, you learn about the management of these processes (embedded within the Environmental and Development Act), stakeholder participation and communication with different target groups.												
Compulsory literature: not applicable												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*x*		*x*		Written knowledge test	1.1.3 (table 3)	100%	5.5	S1.8	S1.9	S1.10	S1.11

Block 5 / Semester 3												
CU79055v3	**Title: Climate change physics & effects**					**Number of study credits: 2.5**		**Number of contact hours: 22**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers the theories about the climate change physics and effects. You will learn the basic physics and calculations behind the climate change effects (drought, heat stress, floods and extreme precipitation) in Europe and their social and economic impact. Complementary to the aforementioned content you will learn and practice basic hydrology calculations.												
Compulsory literature: not applicable												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*X*		*X*		Written knowledge test	9.2.1.	100%	5.5	S1.8	S1.9	S1.10	S1.11

Block 5 / Semester 3												
CU79028v3	**Title: Advanced GIS**					**Number of study credits: 2.0**		**Number of contact hours: 18**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: In this course is the follow up of the 'introduction into GIS course'. You will learn how to conduct a raster, vector and a DEM analysis, with the uses ARC GIS Pro software. By realizing a flood impact analysis of a flood prone area. Course will be assessed by a portfolio test in week 7 of semester 1.												
Compulsory literature: for this course is ARC GIS Pro, running under HZ licence at MacOS, Microsoft Windows or Linux, and the use of a non-desktop computer required.												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)			*X*	*X*		Portfolio	1.1.1, 6.1.1	100%	5.5	S1.7	S1.9	S1.10	S1.12

Block 5 / Semester 3						
CU79107V1	**Title: Climate Proof Area Vision**	**Number of study credits: 5.0**	**Number of contact hours: 44**	**Mandatory**	**Teaching language: English**	
Conditions for course participation: Not applicable						
Conditions for test participation: 'Netherlands 2150-day' (SG) in S1.1; Field trip to course related cases/sites						
Brief description of course content: In this project you will develop a vision for an European flood prone region. This policy document will be based on area analysis, desk research and scenarios. The course will be assessed on behalf of a report of your vision performed on the basis of the research circle, a digital presentation of your vision as group product and a supporting water balance.						
Compulsory literature: not applicable						

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		X			X	Paper assignment	7.1.1, 7.1.2, 7.1.3, 7.1.4 (table 3)	30%	5.5	S1.7	S1.9	S1.10	S1.12
TEST02 (VT)	X				X	Presentation	1.1.1, 1.2.1, 2.2.3 table 3)	50%	5.5	S1.8	S1.9	S1.10	S1.12
TEST03 (VT)			X	X		Portfolio	1.1.1, 1.1.3, 2.1.1, 2.1.2 (table 3)	20%	5.5	S1.4- S1.7	S1.9	S1.10	S1.12

Block 6 / Semester 3												
CU79030v1	**Title: Adaptive Planning Theory**					**Number of study credits: 3.0**		**Number of contact hours: 26**		**Mandatory**	**Teaching language: English**	
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers theories for planning and management for adaptation and mitigation. This will be explained via the application in the Dutch Delta program, taking into consideration the different socio-economic and cultural dimensions and the European context. This course prepares for the adaptive Climate Change Tender.												
Compulsory literature:												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*x*		*X*		Written knowledge test	2.1.1, 2.1.2, 4.1.1 (table 3)	100%	5.5	S1.18	S1.19	S1.20	S1.21

Block 6 / Semester 3												
CU79105V1	**Title: Research Methodology**					**Number of study credits: 2.0**		**Number of contact hours: 18**		**Mandatory**	**Teaching language: English**	
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers the steps of the research cycle from the research proposal till writing your report. The report will be assessed with an assessment form and a peer assessment of your individual contribution to the group work.												
Compulsory literature:												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)			*x*		*X*	Paper Assignment	7.1.2, 7.1.3, 7.1.4 (table 3)	100%	5.5	S1.17	S1.19	S1.20	S1.22

Block 6 / Semester 3												
CU79033v3	**Title: Data Visualisation**					**Number of study credits: 2.5**		**Number of contact hours: 22**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: In this course you will learn how to visualize data in a professional way. You will learn how to upgrade GIS maps into professional visuals by the use of Adobe Illustrator and display them in the digital environment of ArcGis storymaps . The course will be assessed by an digital portfolio												
Compulsory literature: For this course is ArcGIS Pro and Adobe Illustrator, running at macOS, Microsoft Windows or Linux, and the use of a non-desktop computer required.												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)			*x*	*X*		Portfolio	6.1.2, 8.1.1 (table 3)	100%	5.5	S1.18	S1.19	S1.20	S1.21

Block 6 / Semester 3												
CU79106V1	**Title: Climate Adaptive area request for proposal**					**Number of study credits: 5.0**		**Number of contact hours: 36**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: In this project you will enrol as team (your group) for a 'climate adaptive area request for proposal'. This request for proposal will be based on area analysis, desk research and theories for planning and management for adaptation and mitigation. The vision will be displayed in an request for proposal, a group product, which is supported by a calculated water system design. The request for proposal of the vision will be presented as a group product, assessed by the lecturers according to the completion criteria and individual oral examination.												
Compulsory literature:												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		X			X	Paper Assignment	3.2.1, 5.1.1, 8.1.1, 8.2.1 (table 3)	30%	5.5	S1.17	S1.19	S1.20	S1.22
TEST02 (VT)	X			X		Presentation	6.1.1, 8.1.1, 8.2.2, 8.2.3, 9.2.2 (table 3)	40%	5.5	S1.18	S1.18	S1.20	S1.20
TEST03 (VT)			X	X		Portfolio	2.2.1, 3.1.1, 9.2.2 (table 3)	30%	5.5	S1.12 - S1.15	S1.19	S1.20	S1.22

SEMESTER 4 DM Block 7 Risk and Disaster Management & Block 8 Strategic Planning for Resilient Deltas

Block 7 / Semester 4					
CU79035v1	**Title: Spatial Planning for Deltaic Risks**	**Number of study credits: 3**	**Number of contact hours:22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this module you will focus on vulnerabilities and risks present in delta areas in general and the Mississippi delta, USA specifically. You will learn which environmental, ecological, spatial and climate risks are present and how they relate to each other and to the social-economic and institutional risks. Furthermore, you will learn theories about planning for risks and disaster management.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Written knowledge test	1.1.1, 1.1.3, 1.2.1 (table 3)	100%	5.5	S2.8	S2.9	S2.10	S2.11

Block 7 / Semester 4					
CU79036v1	**Title: Social and Economic Risks**	**Number of study credits: 3**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this module you will learn about economic and socioeconomic risks for delta areas. You will learn about the economic and social risks of climate change. You will learn theories about disaster economics, economic value of ecosystem services and you will also get an introduction in system thinking. You will learn to look at these topics from different perspectives and apply your knowledge on cases, in particular the case of the Mississippi delta in Louisiana, USA.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Written knowledge test	1.1.1, 1.1.3, 1.2.1 (table 3)	100%	5.5	S2.8	S2.9	S2.10	S2.11

Block 7 / Semester 4					
CU79037v1	**Title: Project & Process I**	**Number of study credits: 3**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this module you will learn about risk analysis of delta areas. We will focus on the case of the Mississippi delta in Louisiana, USA. You will learn which social and institutional risks are present within deltas. You will learn theories about process management and design, actor- and stakeholder analysis, and governance.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Written knowledge test	1.1.1, 1.1.3, 1.2.1 (table 3)	100%	5.5	S2.8	S2.9	S2.10	S2.11

Block 7 / Semester 4					
CU79038v1	**Title: Integrated Risk Assessment for Delta Areas**	**Number of study credits: 3.5**	**Number of contact hours:30**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: In this project you will execute a risk assessment of a certain area in the Mississippi delta. You will apply theories of risk and disaster management, ecosystem services, spatial analysis, process management and design, actor- and stakeholder analysis, governance, spatial economics and disaster economics. You will apply this knowledge in a group project. In this project you also have to apply the statistics, GIS and visualization skills you have obtained in previous modules and will further develop in this module. You will also reflect on your performance and development within a group and will be assessed on this.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x			x	Paper Assignment	1.1, 1.2.1, 2.2.3, 7.1.2, 8.1.1, (table 3)	75%	5.5	S2.7	S2.9	S2.10	S2.11
TEST01 (VT)	x	x		x		Criterion-based interview	8.2.1, 8.2.2, 9.1.1, 9.1.2, 9.1.3 (table 3)	25%	5.5	S2.8	S2.8	S2.10	S2.10

Block 8 / Semester 4					
CU79097v1	**Title: Spatial Planning for Resilience**	**Number of study credits: 2**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Special condition for awarding study points (tick-box test): not applicable					
Brief description of course content: Within this course you will learn theories on resilience building, the different types of resilience (spatial, technical, ecological, etc.), levels of resilience as well as design qualities contributing to resilience. Next to that, spatial planning in the US context and strategy development for resilient deltas will be further explored.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		x		x		Portfolio	1.2.2, 1.3.1, 1.3.2 (table 3)	100%	5.5	S2.18	S2.19	S2.20	S2.21

Block 8 / Semester 4					
CU79098v1	**Title: Socioeconomic Resilience**	**Number of study credits: 2**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this course you will learn about strategic planning for resilient deltas. We will focus on the case of the Mississippi delta in Lousiana, USA. You will learn theories on concepts of resilience, strategy development, economic thinking and system thinking, cost estimation and social cost and benefit analysis. You will have to apply your knowledge in the project and in a portfolio with a practical assignment/ small research.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Portfolio	1.1.2, 1.2.2, 2.1.1, 3.1.1, 9.2 (table 3)	100%	5.5	S2.18	S2.19	S2.20	S2.21

Block 8 / Semester 4					
CU79100v1	**Title: Project & Process II**	**Number of study credits: 2**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this module you will learn about risk analysis of delta areas. We will focus on the case of the Mississippi delta in Louisiana, USA. You will learn which social and institutional risks are present within deltas. You will learn theories about process management and design, actor- and stakeholder analysis, and governance.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Portfolio	1.3.1, 1.3.2. 3.1.1 (table 3)	100%	5.5	S2.18	S2.19	S2.20	S2.21

Block 8 / Semester 4					
CU79099v1	**Title: Strategic Planning for Resilient Deltas**	**Number of study credits: 6.5**	**Number of contact hours: 66**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this module you will learn about strategic planning for resilient deltas. We will focus on a case within the Mississippi delta in Lousiana, USA. You will learn to apply theories on resilience, spatial planning in the US context, strategy development, economic thinking and system thinking, project/process management and social cost and benefit analysis. You will apply this knowledge within an individual project where you work on a proposal for a competition to make a New Orleans more resilient. You will apply your visualisation, GIS and statistics skills in the project. You will develop your presentation skills to give a pitch for the proposal.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Paper Assignment	1.2.2, 1.3, 2.1, 2.2, 3.1, 3.2, 4.1, 5.1, 6.1.1, 7.1.2, 8.1, 8.2.3 (table 3)	75%	5.5	S2.17	S2.19	S2.20	S2.21
TEST01 (VT)	x			x		Presentation	2.2, 8.1.1 (table 3)	25%	5.5	S2.18	S2.19	S2.20	S2.21

SEMESTER 7 DM

Block 13 & 14 / Semester 7					
CU79085V1	**Title: Integrated coastal challenge**	**Number of study credits: 10**	**Number of contact hours: 60**	**Mandatory**	**Teaching language: English**
Conditions for course participation: -					
Conditions for test participation: -					
Brief description of course content: In this course, you will develop abilities to work in a multidisciplinary environment. You will work in a group with colleagues from different study programs. The coastal challenge is based on a complex real-life case of a client. It uses the principles of integrated coastal zone management as a framework. You will initiate and design the project and also learn and apply tools for communication, collaboration, management, and innovation.					
Compulsory literature: -					

Test code	Format					Description and assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		*x*		*x*		Assessment professional development (Portfolio)	8, 9 (table 3)	40%	5.5	S1.19	S1.19	S1.20	S2.2
TEST02 (VT)		*x*			*x*	End products (Portfolio)	1, 2, 3, 7, 8 (table 3)	40%	5.5	S1.17	S1.18	S1.19	S1.20
TEST03 (VT)	*x*				*x*	Presentation	8, 9 (table 3)	20%	5.5	S1.18	S1.19	S1.20	S2.2

Block 13 / Semester 7					
CU79047v1	**Title: Mekong delta - integrated area and system analysis**	**Number of study credits: 2,5**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**

Conditions for course participation:
- Propaedeutic exam passed
- At least 120 EC obtained (including provisional credits)
- Internship OR Minor passed

Conditions for test participation: not applicable

Brief description of course content: In this course an integrated area and system analysis of an area in the Vietnamese Mekong Delta will be conducted. This analysis will be used to develop relevant scenarios for a more circular development of this delta.

Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		x			x	Paper Assignment	1.1, 1.2, 1.3, 7.1, 7.2, 7.3, 8.2, 8.3, 8.4, 9.3, 9.3, 9.5, 9.6 (table 2)	100%	5.5	S1.7	S1.8	S1.9	S1.10

Block 13 / Semester 7					
CU79048v1	**Title: Spatial planning for circularity**	**Number of study credits: 2,5**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**

Conditions for course participation:
- Propaedeutic exam passed
- At least 120 EC obtained (including provisional credits)
- Internship OR Minor passed

Conditions for test participation: not applicable

Brief description of course content: The course Spatial planning for circularity consists of three mayor components in the context of the Vietnamese Mekong delta: • Designing with ecosystem services (mangroves, sedimentation and erosion, salinization, etc.)• Planning for spatial resilience: methods the Vietnamese society has developed for planning and managing the Mekong delta conditions and how to adapt the VMD to the spatial and ecological challenges of climate change • Planning for circularity: flow charts, (urban0 metabolism planning, landscape as contributing force for organising circular processes

Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		x		x		Written knowledge test	2.1, 2.2, 3.3, 4.1, 7.2, 9.2 (table 2)	100%	5.5	S1.8	S1.9	S1.10	S1.11

Block 13 / Semester 7					
CU79049v1	**Title: Delta Economics III**	**Number of study credits: 2,5**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**

Conditions for course participation:
- Propaedeutic exam passed
- At least 120 EC obtained (including provisional credits)
- Internship OR Minor passed

Conditions for test participation: not applicable

Brief description of course content: In the course Delta Economics 3 you learn to analyse the economic system of the Vietnamese Mekong delta. We will look at value chains and making value chains more sustainable and equal. You will also look at economic systems and forces, economic policies and global trends in economic development and thinking. Concepts of circular economy will be discussed and latest debate on how to shift towards sustainable economic solutions for climate resilience and circular development.

Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		x		x		Written knowledge test	1.2, 1.3, 2.2, 3.1, 6.1 (table 2)	100%	5.5	S1.8	S1.9	S1.10	S1.11

Block 13 / Semester 7					
CU79050v1	**Title: Delta Management**	**Number of study credits: 2,5**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**

Conditions for course participation:
- Propaedeutic exam passed
- At least 120 EC obtained (including provisional credits)
- Internship OR Minor passed

Conditions for test participation: not applicable

Brief description of course content: In the course Delta Management you learn about project and process management and adaptive planning in an international context, dealing with uncertainties and cultural differences.

Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST 01 (VT)		x		x		Written knowledge test	1.1, 1.2, 1,3, 2,2, 3.2 (table 2)	100%	5.5	S1.8	S1.9	S1.10	S1.11

Block 14 / Semester 8

CU79051v1	Title: Mekong project	Number of study credits: 10	Number of contact hours: 95	Mandatory	Teaching language: English

Conditions for course participation:
- Propaedeutic exam passed
- At least 120 EC obtained (including provisional credits)
- Internship OR Minor passed
- CU79048v1 participated

Conditions for test participation: not applicable

Brief description of course content: In this course a regenerative landscape needs to be developed for an area in the Vietnamese Mekong delta, based on the system analysis in module 13. This regenerative landscape should be implemented on the regional scale, preferably improve a current negative landscape feature, contribute to the overall climate resilience and the circular economy of the province. Next to that your solution should fit within the Vietnamese/Mekong delta policies and culture. You will learn about using the landscape as driving force for metabolism optimization and economic development in delta areas and you will learn how to manage the realisation, maintenance, monitoring and evaluation of projects and programmes. You will also learn to specify feasibility, practicability and sustainability, social costs and benefits and funding options. The form for the assignment will be an international tender.

Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST 01 (VT)		x				Paper Assignment	2.1, 2.2, 3.1, 3.2, 3.3, 4.1, 5.1, 6.1, 7.1, 7.2, 8.2, 8.4, 9.6 (table 2)	75%	5.5	S1.17	S1.18	S1.19	S1.20
TEST 02 (VT)	x	x				Presentation	8.1, 8.2, 8.4, 9.2 (table 2)	25%	5.5	S1.18	S1.19	S1.20	S1.20

SEMESTER 3 SPD Block 5 Vision Development & Block 6 Adaptive Planning for Climate Change

Block 5/ Semester 3												
CU79103V2	**Title: Principles of Data Analysis**					**Number of study credits: 2.5**		**Number of contact hours: 24**		**Mandatory**	**Teaching language: English**	
Conditions for course participation: not applicable												
Conditions for test participation: not applicable												
Brief description of course content: Student will learn to prepare data sets for analysis (data management), methods to summarize and describe a data set (descriptive analysis), basic methods to test for statistical significance, to visualise the data in a clear and concise way, and to answer research questions based on data.												
Compulsory literature: Excel 2007 or higher												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*x*	*x*	*x*		Portfolio	7.1.2	40%	4.0	S1.8	S1.9	S1.10	S1.12
TEST02 (VT)		*x*	*x*	*x*		Written knowledge test	6.1.1, 6.1.2	60%	5.5	S1.8	S1.9	S1.10	S1.12

Block 5 / Semester 3												
CU79025v1	**Title: Vision development theory**					**Number of study credits: 3.0**		**Number of contact hours: 26**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers theories about vision development. You will learn how to formulate a vision by using scenarios based on different uncertainties and driving forces. Furthermore, you learn about the management of these processes (embedded within the Environmental and Development Act), stakeholder participation and communication with different target groups.												
Compulsory literature:												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*x*		*X*		Written knowledge test	1.1.3 (table 3)	100%	5.5	S1.8	S1.9	S1.10	S1.11

Block 5 / Semester 3												
CU79055v3	**Title:** Climate change physics & effects					**Number of study credits: 2.5**		**Number of contact hours: 22**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers the theories about the climate change physics and effects. You will learn the basic physics and calculations behind the climate change effects (drought, heat stress, floods and extreme precipitation) in Europe and their social and economic impact. Complementary to the aforementioned content you will learn and practice basic hydrology calculations.												
Compulsory literature:												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*X*		*X*		Written knowledge test	9.2.1.	100%	5.5	S1.8	S1.9	S1.10	S1.11

Block 5 / Semester 3												
CU79028v3	**Title: Advanced GIS**					**Number of study credits: 2.0**		**Number of contact hours: 18**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: In this course is the follow up of the 'introduction into GIS course'. You will learn how to conduct a raster, vector and a DEM analysis, with the uses ARC GIS Pro software. By realizing a flood impact analysis of a flood prone area. Course will be assessed by a portfolio test in week 7 of semester 1.												
Compulsory literature: for this course is ARC GIS Pro, running under HZ licence at MacOS, Microsoft Windows or Linux, and the use of a non-desktop computer required.												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)			*X*	*X*		Portfolio	1.1.1, 6.1.1	100%	5.5	S1.7	S1.9	S1.10	S1.12

Block 5 / Semester 3						
CU79104V1	**Title: Climate Proof Spatial Vision**	**Number of study credits: 5.0**	**Number of contact hours: 44**	**Mandatory**	**Teaching language: English**	
Conditions for course participation: Not applicable						
Conditions for test participation: 'Netherlands 2150-day' (SG) in S1.1; Field trip to course related cases/sites; Minimal of 80% attendance required to do TEST02 and TEST03.						
Brief description of course content: In this project you will develop as a design team a vision for an urbanized European flood prone region. This distinctive vision will be based on site visit, area analysis, desk research and spatial scenarios. The vision will be developed by the use of a multilayer based approach. The maps will be elaborated by use of GIS, visualization. The vision will be displayed in a paper, a group product, and underpinned by the knowledge of the courses of the previous modules. The course will be assessed on behalf of a paper of your vision performed on the basis on research, a digital presentation of your vision as group product and a supporting water balance.						
Compulsory literature:						

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		X			X	Paper Assignment	7.1.1, 7.1.2, 7.1.3, 7.1.4 (table 3)	30%	5.5	S1.7	S1.9	S1.10	S1.12
TEST02 (VT)	X				X	Presentation	1.1.1, 1.2.1, 2.2.3 table 3)	50%	5.5	S1.8	S1.9	S1.10	S1.12
TEST03 (VT)			X	X		Portfolio	1.1.1, 1.1.3, 2.1.1, 2.1.2 (table 3)	20%	5.5	S1.4- S1.7	S1.9	S1.10	S1.12

Block 6 / Semester 3												
CU79030v1	**Title: Adaptive Planning Theory**					**Number of study credits: 3.0**		**Number of contact hours: 26**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers theories for planning and management for adaptation and mitigation. This will be explained via the application in the Dutch Delta program, taking into consideration the different socio-economic and cultural dimensions and the European context. This course prepares for the adaptive Climate Change Tender.												
Compulsory literature:												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		*x*		*X*		Written knowledge test	2.1.1, 2.1.2, 4.1.1 (table 3)	100%	5.5	S1.18	S1.19	S1.20	S1.21

Block 6 / Semester 3												
CU79033v3	**Title: Data Visualisation**					**Number of study credits: 2.5**		**Number of contact hours: 22**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: In this course you will learn how to visualize data in a professional way. You will learn how to upgrade GIS maps into professional visuals by the use of Adobe Illustrator and display them in the digital environment of ArcGis storymaps . The course will be assessed by an digital portfolio												
Compulsory literature: For this course is ArcGIS Pro and Adobe Illustrator, running at macOS, Microsoft Windows or Linux, and the use of a non-desktop computer required.												
Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)			*x*	*X*		Portfolio	6.1.2, 8.1.1 (table 3)	100%	5.5	S1.18	S1.19	S1.20	S1.21

Block 6 / Semester 3												
CU79105V1	**Title: Research Methodology**					**Number of study credits: 2.0**		**Number of contact hours: 18**		**Mandatory**		**Teaching language: English**
Conditions for course participation: Not applicable												
Conditions for test participation: Not applicable												
Brief description of course content: This course covers the steps of the research cycle from the research proposal till writing your report. The report will be assessed with an assessment form and a peer assessment of your individual contribution to the group work.												
Compulsory literature:												

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)			*x*		*x*	Paper Assignment	7.1.2, 7.1.3, 7.1.4 (table 3)	100%	5.5	S1.17	S1.19	S1.20	S1.22

Block 6 / Semester 3					
CU79108V1	**Title: Strategic spatial interventions**	**Number of study credits: 5.0**	**Number of contact hours: 36**	**Mandatory**	**Teaching language: English**
Conditions for course participation: Not applicable					
Conditions for test participation: Minimal of 80% attendance required to do TEST01 and TEST02.					
Brief description of course content: In this project you will individually elaborate your vision for an urbanized European flood prone region. You will elaborate your intervention within the framework of your Climate Proof Spatial Vision into an integrated spatial proposal with impact on different themes and scale levels. The interventions shows how the area will be more climate adaptive and biodiverse in combination with relevant spatial challenges. The vision will be displayed in a design, an individual product, which is underpinned by the knowledge of the previous courses.					
Compulsory literature:					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)	X			X		Presentation	3.2.1, 5.1.1, 6.1.1, 8.1.1, 8.2.1, 8.2.2, 8.2.3, 9.2.2 (table 3)	70%	5.5	S1.18	S1.18	S1.20	S1.20
TEST02 (VT)			X	X		Portfolio	2.2.1, 3.1.1, 9.2.2 (table 3)	30%	5.5	S1.12 - S1.15	S1.19	S1.20	S1.22

Block 7 / Semester 4					
CU79035v1	**Title: Spatial Planning for Deltaic Risks**	**Number of study credits: 3**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this module you will focus on vulnerabilities and risks present in delta areas in general and the Mississippi delta, USA specifically. You will learn which environmental, ecological, spatial and climate risks are present and how they relate to each other and to the social-economic and institutional risks. Furthermore, you will learn theories about planning for risks and disaster management.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	Format					Assessment type	Content	Weighting Factor (%)	Minimum score	Planning test in week	Inspection of work in week	Resit scheduled in week	Inspection of resit in week
	V	W	O	I	G								
TEST01 (VT)		x		x		Written knowledge test	1.1.1, 1.1.3, 1.2.1 (table 3)	100%	5.5	S2.8	S2.9	S2.10	S2.11

Block 7 / Semester 4					
CU79095v1	**Title: Social Systems Risks**	**Number of study credits: 3**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: Within this course you will learn the basics about economic and socioeconomic risks in delta areas. You will learn about the economic and social risks of climate change. You will learn to identify process related risks that have impact on the feasibility of your project in the Mississippi delta.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Written knowledge test	1.1.1, 1.1.3, 1.2.1 (table 3)	100%	5.5	S2.8	S2.9	S2.10	S2.11

Block 7 / Semester 4					
CU79096v1	**Title: Design Methodologies I**	**Number of study credits: 3**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: In this course you will explore a variety of design methodologies and you will learn for what design assignments you can apply the different methodologies. During the lessons we will explain the pros and cons of diverse design methodologies. You will practice the different methodologies and will be assessed with a portfolio, in which you demonstrate your ability to apply the different methodologies.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)	x		x	x		Portfolio	7.1.1, 7.1.3 (table 3)	100%	5.5	S2.8	S2.9	S2.10	S2.11

Block 7 / Semester 4					
CU79038v1	**Title: Integrated Risk Assessment for Delta Areas**	**Number of study credits: 3.5**	**Number of contact hours:30**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: In this project you will execute a risk assessment of a certain area in the Mississippi delta. You will apply theories of risk and disaster management, ecosystem services, spatial analysis, process management and design, actor- and stakeholder analysis, governance, spatial economics and disaster economics. You will apply this knowledge in a group project. In this project you also have to apply the statistics, GIS and visualization skills you have obtained in previous modules and will further develop in this module. You will also reflect on your performance and development within a group and will be assessed on this.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x			x	Paper Assignment	1.1, 1.2.1, 2.2.3, 7.1.2, 8.1.1 (table 3)	75%	5.5	S2.7	S2.9	S2.10	S2.11
TEST01 (VT)	x	x		x		Criterion-based interview	8.2.1, 8.2.2, 9.1.1, 9.1.2, 9.1.3 (table 3)	25%	5.5	S2.8	S2.8	S2.10	S2.10

Block 8 / Semester 4					
CU79097v1	**Title: Spatial Planning for Resilience**	**Number of study credits: 2**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Special condition for awarding study points (tick-box test): not applicable					
Brief description of course content: Within this course you will learn theories on resilience building, the different types of resilience (spatial, technical, ecological, etc.), levels of resilience as well as design qualities contributing to resilience. Next to that, spatial planning in the US context and strategy development for resilient deltas will be further explored.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Portfolio	1.2.2, 1.3.1, 1.3.2 (table 3)	100%	5.5	S2.18	S2.19	S2.20	S2.21

Block 8 / Semester 4					
CU79102v1	**Title: Design Methodologies II**	**Number of study credits: 3**	**Number of contact hours: 22**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: This course is an elaboration of the previous methodology course, in which you have explored different design methodologies. In this course we will analyze the variety of methodology in depth. You will learn how scales of interventions and the phase in which the design is affect which methodology is the most suitable. You will practice with designing your own methodology. This course will be assessed with a portfolio.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)	x		x	x		Portfolio	7.1.4 (table 3)	100%	5.5	S2.8	S2.9	S2.10	S2.11

Block 8 / Semester 4					
CU79101V1	**Title: Integrated Spatial Water Plan**	**Number of study credits: 7.5**	**Number of contact hours: 30**	**Mandatory**	**Teaching language: English**
Conditions for course participation: not applicable					
Conditions for test participation: not applicable					
Brief description of course content: With a (strategic) spatial plan for an urbanized delta region, you propose concrete water-related design solutions as part of an integrated approach for resilient, liveable and attractive delta regions in the future.					
Compulsory literature: literature in the form of articles, policy documents and book chapters will be handed out during the lectures					

Test code	**Format**					**Assessment type**	**Content**	**Weighting Factor (%)**	**Minimum score**	**Planning test in week**	**Inspection of work in week**	**Resit scheduled in week**	**Inspection of resit in week**
	V	**W**	**O**	**I**	**G**								
TEST01 (VT)		x		x		Paper Assignment	1.1.3, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 4.1, 8.1, 8.2, 9.2 (table 3)	75%	5.5	S2.17	S2.19	S2.20	S2.21
TEST01 (VT)	x			x		Presentation	2.2, 8.1.1 (table 3)	25%	5.5	S2.18	S2.19	S2.20	S2.21