



DELTA
.....
ACADEMY

Water Management

Aquatic Ecotechnology

Delta Management

Information for exchange student

2019-2020



UNIVERSITY
.....
OF APPLIED SCIENCES



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General information for exchange students in the programme Water Management

Minors and courses in English

The Bachelor student of Water Management is a four year applied bachelor student programme. Exchange students can apply to do one of the minor programs Research and Innovation or choose a number courses from the programme with a total number of 30 ECTS per semester. Semesters 1, 3, 5 and 7 are from September up to January (fall semester). Semesters 2, 4 and 6 from February to June (spring semester).

Application deadline minors

For the minor Research and Innovation application must be done before May 1 (fall semester) or November 1 (spring semester), there are a limited number of places 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.

Minors of 30 ECTS

We offer a research minor called “Fit for the Future” of 30 ECTS.

The different applied research groups of HZ bring in topics on:

- Building with Nature
- Water Safety & Spatial Planning
- Water Technology
- Aquaculture
- Water and Energy
- Asset Management

More information on these programmes can be found on page 6 - 9.

English courses offered. 2 specializations.

The Water Management programme is under construction at this moment. From September 2016 it will become one programme with two specializations, Water Management (or Aquatic Ecotechnology) and Delta Management . Description of 4th year courses AET and DM (semester 7) become available soon.

If you choose to do a number of courses from the programme we advise to choose all courses from the same semester. If you choose a mixture of two or even more semesters the lessons might be scheduled at the same time. It is most of the time not possible to attend all lessons. Thus we advise you to have add courses to your Learning Agreement which have been approved by your home institute so that you have a ‘back up’ plan.

Specialization Aquatic Ecotechnology. Course offer

Semester	Course code	Course name	ECTS
3		Water Quality	12.5
		Water Cycling	12.5
4		Hydrology	12.5
		Eco engineering	12.5
7		Urban Water Management	7,5
		Delta Challenge (big multi-disciplinary project)*	10
		Aquaculture	10
		Ecological Risk Assessment	10
		Water Technology Advanced	10
		Asset Management	10
		Dredging and Ecology	7,5

Detailed course descriptions can be found [here](#).

Specialization Delta Management. Course offer.

Semester	Course code	Course name	ECTS
3		Vision development (applied in European Deltas)	30
4		Strategy development (applied in Mississippi Delta)	30
7		Integrated Area Development (applied in Mekong Delta)	20
		Delta Challenge	10

Detailed course descriptions can be found [here](#).

Optional courses especially for international students

CU34638 Dutch Culture & Languages 2 ECTS

This course will be offered at the Vlissingen Campus.

VCC3842 Peerproject 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.

Research minors offered by the Delta Academy

Name minor	Building with Nature– Research & Innovation	Possible notification diploma			Yes
Contact person	Wietse van de Lageweg	Number of ECTS	30	Work placement	No
Contact moments/weeks	Two to three contact moments per week. Duration and nature vary				
Remarks					
Short description of the content					
<p>Current social developments and changes raise new questions and challenges. These challenges are often very complex. A professional bachelor student has to be able to investigate problems and act in a social responsible way. In this specializing minor of HZ you get the role of researcher and learn to deal with these complex challenges. You will learn how to do applied research. You do that partly by attending classes but mainly by carrying out research yourself for an organization. The research is offered by one of the research groups of HZ University of Applied Sciences. In addition, every bachelor student is expected to deal with these questions and challenges with an more integral approach and often in a multi-disciplinary team. You will have to cross the boundaries of your own discipline and act in disciplines where others are specialized in. The job market therefore requires not only specialists but also generalists with a critical eye and a proactive attitude. Your research can be part of a complex, comprehensive, multidisciplinary, multi-year study. It may be that you carry out research with students from other disciplines. You will be guided in your research by an experienced researcher and a process supervisor.</p> <p>Building with Nature</p> <p>As a result of changes in societal demand and technical developments, water management and engineering are moving from hard traditional structures like dikes and dams, to designs in which natural structures and processes are incorporated. One of the underlying factors in this development is the increasing awareness of the impacts of climate change and its effect on water levels and extreme events. Furthermore, water managers are expected to create more safety, opportunities for recreation, and other benefits, with increasingly smaller budgets. This requires infrastructure that combines multiple functions. In our research group we work on application of the Building with Nature concept. ‘Building with Nature’ focusses on solutions that use abiotic forces of nature (e.g. wind and currents that transport sand) and ecosystem services delivered by organisms (e.g. reefs and vegetation that catch and stabilize sand). The research group also focusses on Building for Nature: creating additional nature values in and on mono functional structures such as dikes.</p>					
Relation to your later profession					
In this minor you learn to setup, preform and present applied research. For more information read the short description of the content above.					
Practical information					
This minor always starts at the beginning of the semester (around September 1 or February 1). For the minor Research and Innovation application must be done before April 1 (fall semester) or October 1 (spring semester), there are a limited number of places 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.					
Reactions from former students					

Name minor	Water Safety & Spatial Planning – Research & Innovation	Possible notification diploma			Yes
Contact person	Jean Marie Buijs	Number of ECTS	30	Work placement	No
Contact moments/weeks	Two to three contact moments per week. Duration and nature vary				
Remarks					
Short description of the content					
<p>Current social developments and changes raise new questions and challenges. These challenges are often very complex. A professional bachelor student has to be able to investigate problems and act in a social responsible way. In this specializing minor of HZ you get the role of researcher and learn to deal with these complex challenges. You will learn how to do applied research. You do that partly by attending classes but mainly by carrying out research yourself for an organization. The research is offered by one of the research groups of HZ University of Applied Sciences. In addition, every bachelor student is expected to deal with these questions and challenges with an more integral approach and often in a multi-disciplinary team. You will have to cross the boundaries of your own discipline and act in disciplines where others are specialized in. The job market therefore requires not only specialists but also generalists with a critical eye and a proactive attitude. Your research can be part of a complex, comprehensive, multidisciplinary, multi-year study. It may be that you carry out research with students from other disciplines. You will be guided in your research by an experienced researcher and a process supervisor.</p> <p>Water Safety & Spatial Planning</p> <p>The research group Safety and Spatial Planning of the Delta Academy has its focus on the development of Resilient Deltas. Resilience is the capacity of a social system (e.g. an organization, city, or society) to proactively adapt to and recover from disturbances that are perceived within the system to fail outside the range of normal and expected disturbances. In the resilience programme the research group focuses on four levers which contribute to the resilience of communities in Deltas: Social capital, land use, vital infrastructure and economic drivers. The aim of the research is to develop instruments to reduce vulnerability of the Deltas and to improve adaptability of the Delta communities. The focus of these instruments is not only to enhance the ability of communities to cope with crises situations, but also to contribute to the vitality of Delta communities in everyday life.</p>					
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Reactions from former students					

Name minor	Water Technology– Research & Innovation	Possible notification diploma			Yes
Contact person	Hans Cappon	Number of ECTS	30	Work placement	No
Contact moments/weeks	Two to three contact moments per week. Duration and nature vary				
Remarks					
Short description of the content					
<p>Current social developments and changes raise new questions and challenges. These challenges are often very complex. A professional bachelor student has to be able to investigate problems and act in a social responsible way. In this specializing minor of HZ you get the role of researcher and learn to deal with these complex challenges. You will learn how to do applied research. You do that partly by attending classes but mainly by carrying out research yourself for an organization. The research is offered by one of the research groups of HZ University of Applied Sciences. In addition, every bachelor student is expected to deal with these questions and challenges with an more integral approach and often in a multi-disciplinary team. You will have to cross the boundaries of your own discipline and act in disciplines where others are specialized in. The job market therefore requires not only specialists but also generalists with a critical eye and a proactive attitude. Your research can be part of a complex, comprehensive, multidisciplinary, multi-year study. It may be that you carry out research with students from other disciplines. You will be guided in your research by an experienced researcher and a process supervisor.</p> <p>Water Technology</p> <p>The research group water technology aims at development of applicable technologies for sustainable water (re)use in a combined fresh/saline delta. Current research three fields can be distinguished. One is recycling of surface and process water for industry, agriculture and aquaculture. Examples are reuse of cooling tower water, rainwater runoff and industrial wastewater. Another field is focused on recovery of valuable content in waste water. Examples are acoustic particle filtering and nutrient recovery. The last field is monitoring and control. Examples are monitoring and control of water filtration systems and control of biofouling in water systems with ultrasound.</p>					
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Reactions from former students					

Name minor	Aquaculture– Research & Innovation	Possible notification diploma			Yes
Contact person	Jasper van Houcke	Number of ECTS	30	Work placement	No
Contact moments/weeks	Two to three contact moments per week. Duration and nature vary				
Remarks					
Short description of the content					
<p>Current social developments and changes raise new questions and challenges. These challenges are often very complex. A professional bachelor student has to be able to investigate problems and act in a social responsible way. In this specializing minor of HZ you get the role of researcher and learn to deal with these complex challenges. You will learn how to do applied research. You do that partly by attending classes but mainly by carrying out research yourself for an organization. The research is offered by one of the research groups of HZ University of Applied Sciences. In addition, every bachelor student is expected to deal with these questions and challenges with an more integral approach and often in a multi-disciplinary team. You will have to cross the boundaries of your own discipline and act in disciplines where others are specialized in. The job market therefore requires not only specialists but also generalists with a critical eye and a proactive attitude. Your research can be part of a complex, comprehensive, multidisciplinary, multi-year study. It may be that you carry out research with students from other disciplines. You will be guided in your research by an experienced researcher and a process supervisor.</p> <p>Aquaculture</p> <p>The research group Aquaculture in Delta Areas of the Delta Academy has its focus on sustainable saline aquaculture in and outside the region Zeeland. Aquaculture is the controlled production of saline crops, algae, seaweed, ragworms, shellfish and fish. Cultivation of these organisms can take place in several (intensive and extensive) ways. The research group Aquaculture has built up an extensive network of Small and Medium Enterprises (SME), consultancies and knowledge institutes involved in aquaculture in and outside the Netherlands. The main research topics are; Integrated Multi Trophic Aquaculture (IMTA), new species to the Dutch situation (such as lobster and abalone), improvement of cultivation environments, groundwater suitability, quality aspects in shellfish cultivation and algae cultivation. The research group Aquaculture uses a full-fledged research facility SEA Lab, in which many applied research (experiments) are carried out.</p>					
Relation to your later profession					
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Practical information					
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