



HZ University of Applied Sciences

B Civil Engineering

Limited programme assessment

Summary

In April 2025 the Bachelor programme Civil Engineering at HZ University of Applied Sciences (HZ) was visited by an audit panel from NQA. This four-year full-time programme is taught in English and in Dutch at the main location in Middelburg. The audit panel assesses the quality of the study programme as **positive**.

The panel commends the programme for the focus on the technical aspects in Civil Engineering. Additionally, the surrounding delta region is effectively used as a learning environment. This is beneficial for the employers in the local area and it is also interesting for international students to study this programme. Evaluations show that students are quite positive about the programme. This is another important reason why students from all over the world are coming to this programme in Zeeland to study Civil Engineering.

Standard 1: Intended Learning Outcomes

The programme meets the generic quality requirements for this standard. The aim is to educate Civil Engineers able to work with a future-oriented mindset. The programme intends to offer a solid technical fundament in order to address challenges in Civil Engineering. The intended learning outcomes are derived from the national Built Environment profile and represent the bachelor level. The orientation of the programme is aligned with the regional professional work field. The programme is committed to building collaboration with international work field partners. Two professional work field committees, representing the national and international broad field of Civil Engineering, advise the programme on developments in the field of Civil Engineering.

Standard 2: Teaching-Learning Environment

The programme meets the generic quality requirements for this standard. The programme content builds up in a well-structured way towards the final qualifications. Students are supervised well throughout the programme. There is specific attention for educating international students, as is reflected by the equal representation of Dutch and international students in the programme committee. Student coaching is personal and staff is very easy to contact for students. The content and learning activities enable students to obtain the intended final qualifications. The focus on coastal challenges is clearly present in the programme. The team of lecturers is of a good quality, reflecting the focus on the fundamentals of Civil Engineering. It is positive that different nationalities are present among the staff. The panel also commends the modern facilities used by the programme, the equipment to support the learning process is available and supports an inspiring teaching-learning environment.

Standard 3: Student Assessment

The programme meets the generic quality requirements for this standard. The assessment system is solid and well-structured. It is noted that the volume of testing is somewhat excessive, it is advised to implement more formative assessing. Similarly, in general the graduation assessment is well executed and thorough. The panel agrees with the grades that are given. More substantiation of the scores given is advised, since the assessment forms are quite concise. Calibration of assessments has been carried out by the programme. The panel also commends the application of the Deming cycle in the assessment quality assurance. It is viewed positively

that at least one examiner has relevant experience in the professional field, contributing to the practical relevance of the assessments.

Standard 4: Achieved Learning Outcomes

The programme meets the generic quality requirements for this standard. The panel concludes that students actually achieve the intended learning outcomes. The graduation programme is well-designed and complete. The research reports examined show that the topics focus on coastal Civil Engineering and on challenges for the delta region. Moreover, various portfolio assessments are examined and found to be relevant. The STARR method applied to demonstrate that competencies are achieved is working well. It leads to good insights for students to enter the work field or to continue in further education. Graduates find positions in engineering companies, government agencies, or pursue further studies. Employers appreciate their expertise in coastal challenges, confirming the programme's focus on coastal engineering and addressing sustainable, nature friendly and climate proof solutions.

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Introduction

This assessment report constitutes the assessment of the Bachelor programme Civil Engineering at HZ University of Applied Sciences. The assessment itself was done by an audit panel compiled by Netherlands Quality Agency (NQA) and commissioned by HZ University of Applied Sciences (HZ), in consultation with the programme representatives. The audit panel was approved by NVAO prior to the assessment process.

In this report the NQA panel describes its findings, considerations and conclusions. It also gives some recommendations for the programme. This report has been drawn up in accordance with the *Assessment Framework for the Higher Education Accreditation System of the Netherlands* of NVAO, the *Uitvoeringsregels accreditatiestelsel hoger onderwijs Nederland 2024* of NVAO and the *NQA Guideline 2024 for Limited Programme Assessment*.

The site visit took place on 17 April 2025. The audit panel consisted of:

Name	Role	Function
Drs. S.J. Dijkstra	Panel Chair	Program Manager Beethoven Noord,
Ing. R.H. Visscher MEd	Domain Expert	Senior Lecturer Civil Engineering HAN University of Applied Sciences,
Ing. W.P. de Vries	Domain Expert	Project Manager and Theme Leader Movable Bridges, Witteveen & Bos Consulting Engineers B.V.,
L. Cuelenaere	Student Member	Bachelor Programme Civil Engineering at Saxion University of Applied Sciences.

Ir. A.B.C. Hoitink, NQA auditor, acted as Secretary to the panel.

The Bachelor programme Civil Engineering is part of the audit cluster HBO Civiele Techniek. The audit panels of this cluster have been aligned with each other, in the first place through the instruction of their members about the NVAO assessment framework. From the start this alignment is guaranteed by the overlap between the composition of all the panels. In addition, considering that each assessment of a study programme is an individual assessment, as a result of the overlap between the composition of the panels, there has been progressive reflection on previous site visits within the audit cluster wherever relevant. Furthermore, the alignment between panels is guaranteed by the support of the same panel secretary as often as possible, and by employing well-trained panel chairpersons.

Method of working of the panel and process

The study programme has delivered a critical reflection with appendices for this assessment. For the assessment of the achieved learning outcomes, the panel has studied fifteen graduate files of recent graduates. These fifteen graduate files have been selected from the list of alumni of the last two academic years. In this selection, the variety in grading and tracks have been taken into account, as mentioned in Appendix 2.

The core of the assessment is the site visit by the panel, consisting of expert peers. To prepare the visit the panel held a preliminary meeting. In the preliminary meeting the panel members have been instructed about NQA's method of working and about the *NVAO-Assessment Framework*. In this meeting the panel members also discussed their tentative findings. During both the preliminary meeting and during the site visit, panel members shared their findings continuously with each other.

During the site visit the panel spoke with various stakeholders of the study programme, such as students, lecturers (assessors) and representatives of the work field and it studied several documents, see Appendix 2. At the end of the site visit the panel incorporated all the obtained information into an overall view and into a provisional well-argued assessment. In the final oral feedback session, the chairperson of the panel communicated the panel's conclusive assessment and its major findings to the programme's representatives.

Staff members and students of the study programme have had the opportunity to approach the panel (via mail) in confidence to bring to the attention of the panel those matters they consider important to the assessment. However, nobody made use of this opportunity.

After the site visit a draft report was drawn up, which was first presented to the panel. On the basis of the panel's input a second draft was made, which was then presented to the study programme for a check on factual inaccuracies. The panel members have taken note of the reaction by the representatives of the study programme and, wherever necessary, adapted the report. Subsequently, the report was made final. With all information provided (orally and in writing) the panel has been able to make a well-considered judgement.

The audit panel declares that the assessment of the study programme was carried out independently.

Characteristic Features of the Study Programme

Within HZ the Civil Engineering programme is placed in the domain Technology, Water & Environment. This domain consists of several clusters. The Civil Engineering programme is part of the Built Environment cluster, together with the Bachelor programme Water Management and the Bachelor programme 'Bouwkunde'. Within this cluster these three programmes collaborate as is reflected in the interdisciplinary project Coastal Challenge. This is an annual project in which students from the three Bachelor programmes work together to solve a coastal challenge that goes beyond their own field of expertise. The programmes also share facilities and are managed by two programme managers who share responsibility for the three programmes of this cluster.

Over the past five years the annual student intake was 45 to 60 students. At the moment of the site visit the programme has 174 students in total. More than half of these students, 94 in total, are international students. The programme is therefore offered in Dutch and in English. It is offered full-time in four years and has a study load of 240 EC. Students with a pre-university (vwo) or comparable international education can register for the VWO track. This is a three-year programme with a study load of 180 EC. This track is suitable for students who are interested to continue their study at master level. The VWO track consists of the same elements as the four-year programme, without the minor and the orientation internship. The practice orientation is integrated into the curriculum of this track.

Basic Data of the Study Programme

Institute	
Name in RIO	HZ University of Applied Sciences
Address	P.O. Box 364, 4380 AJ Vlissingen
Website	www.hz.nl
BRIN-number	113A881
Status	Funded
ITK	Positive

Programme	
First name in RIO	B Civil Engineering
Location	Middelburg
ISAT-code	34279
RIO-sector	Technology
Orientation and Level	Applied sciences, Bachelor
Language of Instruction	Dutch and English
All programmes, majors and specialisations	4-year track and 3-year VWO track
Joint Programme	Not applicable
Degree and Degree Addition	Bachelor
Study Load in EC	240 credits, VWO track: 180 credits
Variant	Full time
Submission date	1 November 2025
Date of site visit by visitation panel	17 April 2025

Retrospective View of the Previous Accreditation

The following recommendations were given by the previous panel in 2018:

Standard 1

- *The programme could further expand its connections with the professional field, focusing on both local and regional contractors and executors, as well as internationally operating companies.*
- *More attention could be given to international norms and standards, including the differences between them.*
- *To ensure that the research component remains embedded in the curriculum, a sufficient number of research-active lecturers should be available within the programme.*

The programme has undertaken several activities to expand collaboration with the professional field. Although the programme is offered in Dutch and in English, the aim is to educate professionals for regional and national operating companies. Therefore, the programme decided to give little attention to international norms and standards. The panel agrees with this decision. To ensure embedding of the research component, two lecturers are affiliated with the Asset Management research group.

Standard 2

- *The programme must include attention to Dutch contract forms in the curriculum.*
- *More attention should be given to the needs and preferences of international students within the programme.*
- *The programme should continue on its current path, ensuring that the new curriculum is further implemented in the remaining years of the programme.*

In the current programme, attention is given to Dutch contract forms, although deliberately to a limited extent. The programme aims to focus on the engineering content and has completed the implementation of the curriculum as recommended. Next study year the programme will start with the development and implementation of a curriculum that will be aligned to the new Built Environment profile. The aim of the new curriculum is to introduce an educational programme with larger learning units. The other two Bachelor programmes within the cluster, Water Management and Bouwkunde also renew their programmes, in order to increase the options of cooperation in the offering of the programmes.

Standard 4

- *HZ has strong connections through the Delta Academy with institutions such as TU Delft and Wageningen University (WUR). However, these connections are not yet visibly utilised to offer pre-master tracks for students or to encourage them to pursue further studies. This presents opportunities for the programme to explore.*
- *More international graduation projects should be acquired to better align with the programme's international profile.*
- *The advice and evaluation of the company supervisor regarding the graduation project should be formalised in the assessment process. The supervisor is an important source of information and feedback, which can help the programme reflect on whether graduates meet the expectations of the professional field. Additionally, this feedback allows for timely adjustments during the graduation process.*

In practice, it is usually the case that students who want to continue studying after completing the programme are quite capable of finding the appropriate programme for further education. Regarding the international graduation projects, the programme aims to focus on Civil Engineering in the regional and national context. The main idea is to prepare students for companies in the region. Recently the programme established an international work field committee with international operating companies from the region. Regarding the incorporation of supervisor feedback, a formal procedure is set up, as is described in Standard 3 and Standard 4.

Assessments of NVAO Standards

Standard 1 Intended Learning Outcomes

The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline and international requirements.

Conclusion

The programme **meets** the generic quality requirements for Standard 1. The programme aims to educate Civil Engineers operating from a future-oriented mindset. The intention is to offer a solid technical foundation in order to be able to address challenges in Civil Engineering. The intended learning outcomes used are derived from the National Built Environment Profile. According to the panel, the programme's commitment to providing a solid foundation in civil engineering is a strong point. The intended learning outcomes represent the Bachelor level (NLQF6) and the content is aligned with the regional professional work field. The panel observes that the programme is committed to building collaboration with international partners from the work field. Two professional work field committees, representing the national and international broad field of Civil Engineering, advise the programme on developments in the field of Civil Engineering.

Substantiation

Professional orientation

The professional orientation of the programme is clearly described, being expressed in the programme vision and mission statement. The programme uses the following vision: *we intend to educate civil engineers who are ready to build a nature friendly and climate proof future*. This vision results in the following three features of the programme:

- Provide tailor-made education;
- Shape the civil engineers of tomorrow;
- Enable civil engineers to find sustainable solutions for real-world local engineering challenges with a creative, multidisciplinary, analytical, practical, and adaptive approach.

These features together aim to educate students to become T-shaped professionals in the field of Civil Engineering, combining solid expertise in Civil Engineering with a broad base of knowledge and skills across related disciplines.

Intended learning outcomes

In 2022 a new national domain profile for Built Environment came into being. The programme contributed to the discussion of a new competency framework. Currently the intended learning outcomes used by the programme are based on the previous Built Environment profile and subtasks are aligned to the new profile. At the time of the site visit, the programme was working on the breakdown of competencies, subtasks and learning objectives based on the new domain profile for the new curriculum to be implemented as per 2026-2027. The new learning objectives are formulated in a somewhat more abstract manner. The panel considers this to be a positive development, since flexibility in the programme can be increased. Figure 1 illustrates the relation between the 2015 domain profile and the 2022 domain profile:



Figure 1: Overview of the nine competencies of the Built Environment Domain 2015 and 2022, (source SER Civil Engineering HZ)

Level

According to the panel, the level of the intended learning outcomes meets the agreed criteria for education at Bachelor level. As figure 1 shows, the Built Environment profile has nine competencies. These competencies are aligned to the Dublin descriptors and are classified at level 6 of the Dutch Qualifications Framework (NLQF). The level NLQF6 refers to a Bachelor's degree or equivalent qualification. Furthermore, the Built Environment Domain distinguishes competencies at three levels, based on the nature of the task, the context, and the degree of independence. Each level represents a competency score: the basic level corresponds to 1 point, the advanced level to 2 points, and the Bachelor level to 3 points. By linking these three levels to nine competencies, a total of 27 competency points can be achieved. For Civil Engineering programmes, a minimum of 23 competency points must be attained within a programme. In a competency coverage matrix the programme shows that competencies 1, 2, 3, 7, and 8 (Initiating and Directing, Designing, Specifying, Research and Communication and Collaboration) are to be demonstrated by the students at Bachelor level, the remaining four competencies are to be demonstrated at the advanced level. This complies with the required 23 competency points.

Orientation

The programme has a good understanding of the content-related orientation. Lecturers of the programme are contributing to the national BoKS Committee (Body of Knowledge and Skills). This national committee has reached consensus on the joint knowledge and skills of the Civil Engineering programmes in the Netherlands. The final qualifications of the national profiles are also validated by the professional field of Civil Engineering.

International orientation

The panel supports the international orientation of the programme and supports the use of Civil Engineering as the English name for the programme. Since delta regions worldwide face the same challenges, this programme is not only interesting for Dutch students but also for international students worldwide. The programme in the region of southwest Zeeland offers a unique environment in which civil engineering can be related to coastal challenges like water safety, flood defences and coastal engineering. A learning environment with a solid international orientation is offered by HZ in the combination of the internationally oriented Bachelor in Water Management and the Master of River Delta Development. The panel agrees that this is beneficial to the professional field that faces a (growing) staff shortage and needs the international students to help fill this gap. For HZ offering an international programme also ensures that the education of Civil Engineers for the delta region is financially viable.

Consultation with the Professional Field

The intended learning outcomes of the programme are well aligned with the needs of the professional field. Twice a year two professional work field committees meet to discuss developments in the educational programme. Work field representatives highlight developments in Civil Engineering for the programme. In addition to a nationally oriented work field committee there is also an active internationally oriented work field committee. Since around 60 percent of the students are international, the programme decided to start this committee in 2023 in order to consult the work field specifically about international aspects on Civil Engineering. From the agendas and minutes of both work field committees, the panel concludes that quite an extensive number of companies and organisations are consulted and from a diverse background. The representatives in these committees come from a municipality or province, or they are contractors and representatives of consultancy companies. The involvement of North Sea Port (NSP) is a strong point of the programme is; NSP is a cross-border port company located in Belgium and the Netherlands, which is involved in civil engineering activities from Vlissingen to the coast of Ghent in Belgium.

Standard 2 Teaching-Learning Environment

The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

Conclusion

The programme **meets** the generic quality requirements for Standard 2. The content of the programme builds up to the final qualifications as intended in a clear and structured way. The focus on coastal challenges is clearly present in the programme. There is specific attention for educating international students, which is reflected by the equal representation of Dutch and international students in programme committee. Both Dutch and international students are supervised in a good way throughout the programme. Student coaching is personal and staff is very close to students. The content and learning activities enable students to obtain the intended final qualifications.

Concerning the VWO track, the panel notes that students from this track are exempted from the minor and the orientation internship. To ensure sufficient similar practical experience as in the four-year track, the panel recommends the programme to pay special attention to this in the VWO track. The panel also recommends appropriate preparation of international students for practical experiences and project work. Basics in Dutch language skills and orientation on the Dutch society should be mandatory in order to prepare international students for this.

The team of lecturers is of a good quality, reflecting the focus on the fundamentals of Civil Engineering. The panel is positive about the different nationalities present in the staff team, because this contributes to the international teaching and learning environment. The panel commends the modern facilities used by the programme. The equipment to support the learning process is available and supports an inspiring teaching-learning environment.

Substantiation

Structure of the programme

The programme is built up in four blocks of ten weeks or two semesters per year. Per block or semester, courses are offered and at the same time students are working on a civil engineering project related to these courses. The first year of the programme offers students an introduction on the broad field of Civil Engineering. One of the projects focuses on the Dutch-Flemish Delta. Subsequently in the second year, students learn more in-depth about Civil Engineering and work on real life Civil Engineering projects. In the third year, students further develop their knowledge and competencies during an orientation internship and a minor. They do their internship for example at an engineering company or a consultancy company. It is also possible to gain more in-depth experience in applied research by doing a research internship. For the minor, students can choose a minor from HZ, a minor at another university in the Netherlands or abroad. The Offshore Renewable Energy minor is often chosen by Civil Engineering students. In year four all students continue at HZ for the final semester and the research thesis. The final semester consists of the 10 EC course Coastal Challenge and of two optional courses. Finally, the programme is completed with the graduation project. The programme also offers a VWO track next to this four-year and fulltime programme. This three-year programme is similar to years 1, 2 and 4 of the four-year programme. Students who enrol for this track are exempted from the orientation internship and the minor.

Content of the programme

The panel notes that the content of the programme gradually builds up to the intended learning outcomes in a clear and structured way. In the first year the fundamentals of Civil Engineering are offered. Students follow courses such as Soil Mechanics, Construction Materials, or Fluid Mechanics. Next to these courses, Mathematics and Physics courses are offered and throughout the whole year students take classes in English. In order to apply the knowledge obtained and to develop professional skills, students also work on a project in each block.

In the second year applying knowledge and skills is continued in real practice projects. Similarly, knowledge and skills are deepened and broadened in courses such as Transport Infrastructure, Coastal Engineering or Rural Water Management. Students work on real life projects such as Inland infrastructure Development and Coastal Zone Development. This is continued in the third year during the minor and the orientation internship. Most of the students leave the university campus in this year and when they return to complete the programme they start with the Coastal Challenge course. In addition, they select optional courses and complete the programme with the Final Thesis.

The panel notes that students in the VWO track are exempted from the minor and orientation internship. They demonstrate the competencies in question in the Project Management 2 course at the end of the second year. Although the final level of the competencies involved is paid attention to, the panel believes that these students gain less valuable practical experience. Therefore, the panel recommends the programme to ensure that these students gain practical experience comparable to the four-year programme and as can be expected of an applied university programme.

Professional Skills and Competencies

Throughout the programme students work on their professional skills, especially during the projects. For example, in the first year students work on the project Oosterweel Link commissioned by Lantis, a Flemish government's management company. This project involves the construction of a ring road around Antwerp. First year students act as junior civil engineers and deliver a proposal design of a pedestrian or a bicycle bridge in this project. An excursion to the location of the project is part of this project. In the second year, students work on the following two projects: an infrastructure design of Antwerp and Dubai ports and a Design of a renewable energy storage island in the North Sea. In the fourth-year students design a sustainable, climate proof transportation network and coastal defence structures for a coastal area. This project is in collaboration with the bachelor programmes Water Management and Bouwkunde.

Research Skills and Professorships Involved

Research knowledge and skills are adequately developed throughout the programme. Research is part of the projects that students work on, also during the orientation internship and the final thesis specific attention is paid to research. In the projects, the programme works closely together with the Asset Management research group. The panel finds this cooperation very appropriate. Two lecturers participate partly in research projects of this group. Next to asset management other research groups such as the Resilient Deltas research group and the Building with Nature research group are also involved. International students often participate in this research, as part of the orientation internship. These research groups are also involved in interdisciplinary project

Coastal Challenge in the final year. Finally, the Bio based Construction research group shares knowledge on applying bio-based materials in construction and civil engineering.

International teaching and learning environment

The international class room is clearly present, since more than half of the students is coming from abroad. All the course documentation and learning material are available in English. The panel finds the quality of the level of English used in teaching to be more than adequate. If student numbers allow it, a part of the programme is taught in Dutch. In general, the first year and the first half of the second year are taught in English and in Dutch. The panel also finds it positive that students work on their English language skills throughout the whole first year. The panel recommends that Dutch language skills training is also mandatory for international students, as this is important to prepare international students for internships and project work in the region of the university. During the site visit the panel learned that companies sometimes hesitate to accommodate international students because of the language barrier.

The panel sees that the programme pays attention to this matter and endorses the initiative of the programme to develop one student community from the beginning of the programme in order to enhance the orientation on Dutch society.

Admissions and Study Routes

Admission requirements are in line with the aim to educate professionals with a solid base in Civil Engineering. The requirements are outlined in the Course and Examination Regulations (CER) and in the accompanying implementation Regulations (IR). Students coming from Dutch secondary education (HAVO/VWO) with a Nature and Health (NG) or a Nature and Technology (NT) profile are admissible. Students from a related four-year vocational education program (mbo) are admissible too. Students who apply for the three-year VWO track have to comply with the entry requirement of a pre-university education diploma (VWO) or present a diploma at least at an equal level, endorsed by ministerial decree and as agreed by the Examination Board. On average, 10 to 15 percent of the students attend the VWO track.

Since the programme advocates a strong technical basis, attention is paid to overcome differences in prior knowledge and skills. In the first year of the programme foundation courses in mathematics, physics and soil and fluid mechanics are offered. The panel agrees with the strict entry requirements. Students with an inadmissible profile can eliminate their deficiencies by completing a summer course in physics. Furthermore, students can follow a mathematics B summer course. This is recommended, not mandatory. On the other hand, VWO students with Mathematics B can get an exemption for the Math courses of the first year.

Supervision

The study career coaching is well organized and executed. In the first year each student is assigned to a studieloopbaancoach (Dutch students) or a study career coach (international students). In the first-year supervision focuses on understanding the programme, getting acquainted with each other and learning where to find the information needed, such as the Implementation Regulation and the Binding Study Advice. Study career coaches also pay solid attention to personal circumstances, such as culture shock or financial affairs. In the second-year coaching focuses more on study progress and on preparing students for their minor and internship. During the third year, when students are less present on campus, coaching is mainly related to study progress and focuses on selecting the elective courses of year four. Finally, coaches supervise students during the process of orientation on the graduation project.

The panel notes that coaches play a pivot role in monitoring study progress. The supervision is focused on early detection of any study problems throughout the programme. If facilities are required for students with special needs additional support is arranged. Coaches are the first contact to support students. If needed they refer students to a student counsellor or student psychologist. Tailor-made support is offered to students who face social, physical and/or mental challenges. This is in line with the HZ policy as is outlined in the Equal Opportunities Policy Memorandum of HZ.

Lecturers

The panel notes that the staff team is diverse in terms of background, knowledge and expertise, nationalities and professional experience. Students experience the lecturers to be knowledgeable and approachable. Students can reach out to them for more help or questions. The relationship between students and lecturers is personal, while maintaining a professional attitude and distance. Lecturers are engaged and enthusiastic to educate students. The international orientation is reflected well in the composition of the staff team that consists of different nationalities.

The staff team has a wide range of expertise, from Civil Engineering, mechanics and constructions to coastal engineering, mathematics, to geotechnical engineering and asset management. The panel notes that there is a good balance between theoretical and academic expertise and practical experiences. All lecturers have acquired the basic qualifications in examining (BKE) and one lecturer has in the Senior qualification (SKE). New lecturers follow the basic teaching qualification course (BDB). If they have a short term or temporary appointment, an accelerated teaching course is offered. In addition, HZ offers Cambridge English language courses and various other courses such as study career coaching and e-learning. Educational specialists are also involved, supporting lecturers in the development of programme innovations and contributing to on-the-job professionalisation of lecturers.

Programme-specific Facilities

The quality of the physical facilities is good. The programme has sufficient learning spaces, such as classrooms, an open learning centre, areas to meet and work on projects, et cetera. The panel is also positive about the facilities that are provided by the Joint Research Centre Zeeland. In this centre students, researchers, businesses and government work together on issues related to the South West Delta of Zeeland. Several practical research facilities are available to students, such as a biobased (construction) lab, a foundation lab, and a fluid mechanics lab.

Information is also provided adequately. The programme uses the digital learning environment Learn to provide students with the information needed. In general students are satisfied with the information communicated. They have only made some remarks on differences in the use of deadlines and about different ways of communication. The panel advise the programme to inform students only via Learn and to provide them with the correct data concerning deadlines. Next to Learn, the programme uses OnStage for the internship and the graduation project. This is used in the right manner and supports students well in the processes related to the internship and the graduation project, according to the panel.

Standard 3 Student Assessment

The programme has an adequate system of student assessment in place.

Conclusion

The programme **meets** the generic quality requirements for Standard 3. The assessment system is solid and well-structured. However, the panel notes that the volume of testing is somewhat excessive and the panel encourages the programme to implement more formative assessing in its plans. In general graduation assessment is thorough and well executed. The panel agrees with the grades given. More substantiation of the scores given is to be advised, since the assessment forms are quite concise. Calibration of assessments has been carried out by the programme. The panel also commends the application of the Deming cycle in the assessment quality assurance. It is viewed positively that at least one examiner has relevant professional field experience, contributing to the practical relevance of the assessments.

Substantiation

Assessment Policy

The assessment policy of the programme is in line with the HZ Assessment Policy. According to this policy, assessing is an integral component of education. The aim of assessing is to stimulate and to determine the development of students. For the programme, assessing is a process that leads to feedback for students and teachers to enable both of them to take well-founded decisions to guide the study path of the students.

Execution of the Assessment Policy

The panel commends the programme for its accurate and precise assessing. The panel examined the assessment of the final level and studied several examples of written examinations, like Coastal Engineering 1, Construction Materials 2 and Applied Mechanics 1. These exams test knowledge and application of knowledge via open questions and assignments. The panel notes that this testing is solid and well executed. The panel also observes that the programme schedules contain many exams, which is thorough but also time consuming for students and lecturers. Therefore, the panel supports the plans for more formative assessments in order to reduce time needed for assessing.

Structure of Graduation

The graduation assessment consists of two components: the graduation research (Final Thesis), and a portfolio in which students demonstrate the profession-specific competencies. Both components contribute equally to the final graduation grade. The competencies Research (7) and Communication & Collaboration (8) are assessed in the Final Thesis. The competencies Initiating & Directing (1), Designing (2) and Specifying(3) are assessed by a portfolio in which students demonstrate that the competencies are acquired at Bachelor level. Students give a final presentation and are assessed by two examiners based on the presentation given, the thesis report and the portfolio. The remaining competencies are assessed on advanced level. Competencies Realizing (4), Manage assets and data (5) and Managing projects and processes (6) are assessed during the orientation internship. Students who follow the VWO track are

assessed on these competencies in the Project Management 2 course. The final competence Professionalize (9) is assessed in the Coastal Challenge course.

The panel notes that the assessment forms used are quite concise. Criteria are graded from fail, pass, good to very good. Overall, the panel agrees with the grades given. However, the translation from scores to a final grade could be more transparent. For instance, examiners do not use a rubric to substantiate the scores given. Overall, assessing is executed in a valid and thorough manner, leading to a complete assessment of the competencies on the final level.

Quality assurance

The panel highly appreciates the programme’s focus on assessment quality. Assessment evaluation is an integral part of the block assessments. By applying the Deming cycle (Plan-Do-Check-Act) the programme systematically assures the quality of assessing. Regularly calibration sessions are organised, and the four-eye principle is applied to designing written exams and during assessments. The panel values the fact that these assessments are always executed with at least one experienced assessor from the work field.

There is a clear division of roles and responsibilities. The programme, with the programme committee is responsible for assuring the quality of assessing. The Exam Committee is responsible for safeguarding the quality of assessing. There is one Exam Committee installed for HZ and there are three Deelexamencommissies (DEX, Sub Exam Boards), one per domain.



Figure 2: Organisation of the Exam Committee, DEX and Assessment Committee within HZ (SER 2025)

The programme is represented by one person in the DEX for the domain Technology, Water & Environment (TWE). Based on the site visit and the Exam Committee’s year report the panel

concludes that safeguarding the assessment quality is done very well. Assessment quality is supported by the Assessment Committee. This HZ committee conducts periodic random checks. Every assessment and assessment evaluation is checked every 2,5 years to assure the quality of assessing. Altogether this leads to an appropriate quality assurance in assessing, which is confirmed in the positive student satisfaction on assessments.

Standard 4 Achieved Learning Outcomes

The programme demonstrates that the intended learning outcomes are achieved.

Conclusion

The programme **meets** the generic quality requirements for Standard 4. The panel concludes that students actually achieve the intended learning outcomes. The graduation programme is well-designed. Students demonstrate competencies through the Graduation Internship during which they conduct a research project. Competencies are also demonstrated during the Orientation Internship or Project Management and the Coastal Challenge course. The research reports examined by the panel show that the topics focus on coastal civil engineering, and on delta region challenges. The panel examined various portfolio assessments and found both the quality of the research conducted and the portfolios themselves to be appropriate and relevant. The STARR method that is used to demonstrate competencies is working well. This leads to a good starting position for students to enter the work field or to continue in further education. Graduates find positions in engineering companies, government agencies, or pursue further studies. Employers appreciate their expertise in coastal challenges, confirming the programme's focus on coastal engineering and addressing sustainable, nature-friendly and climate-proof solutions.

Substantiation

Graduation programme

The panel finds the graduation programme to be well documented and well-structured. Students demonstrate that they have achieved the intended learning outcomes at different moments of their programme. Competencies 4, 5 and 6 are demonstrated during the Orientation Internship, or in case of the VWO track via Project Management 2. Competence 9 is demonstrated in the final year course Coastal Challenges. Students compose a portfolio in which they collect evidence and reflect on the competencies they have obtained at advanced level. Via the graduation internship this portfolio is completed. During this internship students conduct a research commissioned by the internship company or organization. This research can lead to an advice, professional product, a physical product et cetera. After completing the Research Report students present and defend the findings of the research. During the Graduation Internship students also complete their portfolio.

Products by Graduates

In order to assess the achievement of the intended learning outcomes the panel examined fifteen research reports and graduation portfolios. Since four competencies are demonstrated earlier in the programme at an advanced level, six Coastal Challenge assessments were also examined together with four Orientation Internship assessments and two Project Management 2 assessments (VWO track).

The panel concludes that the quality of the research is as to be expected at Bachelor level. The subjects are relevant and the research is conducted in an appropriate way. The civil engineering subjects are relevant and represent the programme's focus on coastal civil engineering. An example of this is a research project commissioned by Rijkswaterstaat. This research comprises the analysis of a certain clamp connection used for bridges in the province of Zeeland. The

research is thorough and well executed by examining maintenance data collected by Rijkswaterstaat. Another research project was commissioned by an offshore infrastructure company. The student developed a trencher mobility model that considers the interaction between soil trafficability and trencher mobility in order to improve the efficiency and accuracy of cable burial operations for offshore wind farms. Also, on-land topics are researched by students. A typical example for this is a research project that was commissioned by an engineering company. It addresses the problems associated with a provincial road going through a village in the coastal area of Zeeland. In the summer, because of the coastal area's popularity, problems arise such as road safety, traffic flows and environmental issues. The research report details the most suitable options for this road.

The research projects examined demonstrate that the intended learning outcomes are actually achieved. The level is as expected and the content is in line with the focus of the programme. In addition, the portfolios the panel has examined give a solid overview of the competencies students obtained at the required levels. Via the STARR method (situation, task, action, result and reflection) students demonstrate that they have obtained the required competence levels. This leads to good insight for students and a clear starting position for students to enter the work field or to continue their education.

Graduates in the Professional Field

On the whole, students are fairly satisfied with the programme, which they find to prepare them well to enter the work field. They find positions at engineering companies, contractors or government agencies. A considerable part of the international graduates manage to find a position in the Netherlands. Some students continue their studies at Master level at various universities in the Netherlands, such as Wageningen University or abroad. Employers are also satisfied with the quality and level of the graduates. They value the expertise in coastal engineering and the expertise in addressing coastal challenges. This demonstrates that the coastal approach of the programme and the focus on challenges in delta regions worldwide is well chosen.

Final Assessment

Assessments of the Standards

The audit team comes to the following judgements regarding the standards:

	B Civil Engineering
<i>Standard 1 Intended Learning Outcomes</i>	Meets the generic quality requirements
<i>Standard 2 Teaching-Learning Environment</i>	Meets the generic quality requirements
<i>Standard 3 Student Assessment</i>	Meets the generic quality requirements
<i>Standard 4 Achieved Learning Outcomes</i>	Meets the generic quality requirements

The judgements have been weighted in accordance with the NVAO assessment rules. On the basis of this, the audit panel has assessed the quality of the existing Bachelor study programme Civil Engineering of HZ University of Applied Sciences as **positive**.

Recommendations

The audit panel has the following recommendations for the study programme:

Standard 2

- The panel recommends the programme to ensure that VWO track students gain practical experience comparable to the four-year programme and at a level that can be expected of an applied university programme.
- The panel recommends the programme to make the Dutch orientation and language training mandatory for international students in order to reduce difficulties with regard to language and cultural differences, during internships and project work in the region of the university.

Appendices

Appendix 1: Programme for the Site Visit

Time	Subject	Participants
08:30 – 08:45	Welcome	Course Manager (2x), Director domain Technology, Water & Environment.
08:45 – 9:30	Introduction programme and visiting lab facilities	Course Manager, Student year 1 NL, Student year 2 EN (3x), Student year 3 EN.
09:45- 10:45	Study material Panel discussion	Demonstration Learn by student year 2 EN (2x) and student year 3 EN, Explanation of educational innovation Course Manager and Educational advisor.
11:00 – 11:45	Conversation with teachers	Teacher and Member of Curriculum Development Committee (2x), Teacher NL (2x) Teacher EN, Teacher & Researcher Asset Management (2x).
12:00 – 12:45	Lunch and panel discussion	
12:45 – 13:30	Assessing and graduation programme	Chair Examination Board Technology, Water & Environment (TWE) Member Assessment Committee Member Examination Board TWE, Graduation Coordinator, Examiner (2x).
14:00 – 15:00	Conversation with students	Student year 1 EN, Student year 1 NL, Student year 2 EN, Student year 3 EN, Student year 4 EN.
15:15 – 16:00	Business market professional field	Alumnus/Representative Sweco, Alumnus/ Representative BAM, Alumni/Representative Municipality of Goes, Representative North Sea Port, Teachers (4x).
16:00 – 16:30	Course management	Course Manager (2x)
16:30 – 17:15	Panel discussion	
17:15 – 17:30	Preliminary conclusion and feedback	

Appendix 2: Documents Examined

HZ Institutional Plan: Contributing to a Better World, 2022,
Vision and Mission Civil Engineering 2022-2027,
Factsheet NSE 2024,
Domain Plan TWE 2025 and TWE 2022-2024,
Annual Plan, 2025,
Graduation Manual, 2024-2025,
Domain profile Building Together and Creating Space for the Future, 2015,
Implementation Regulations, 2024-2025,
Course and Examination regulations, 2024-2025,
Coverage Matrix
Reports/minutes of the Professional Field Meetings, 2024-2025,
Assessment Policy, 2022,
Orientation Internship Manual, 2024-2025,
Studying with a need for support, policy Memorandum for Equal Opportunities, 2022,
Expertise Matrix, 2024-2025,
Education Policy, 2024,
Reports/minutes of the Programme Committee, 2024-2025,
Annual Report of the Exam Committee.

Graduation files selected:

Programme	Thesis report and portfolio	Coastal challenges	Orientation internship	Project management 2
Regular	13	4	4	
VWO track	2	2		2
Total	15	6	4	2