

**Assessment Report on the Joint Master's Programme
Maritime Operations (M.Sc.)**



**following the European Approach for Quality Assurance
of Joint Programmes**

18th Meeting of the ZEVa Commission on March 21, 2023

Title of the Programme	ECTS	Standard Period of Study	Awarded degree	Intake Capacity per Year	Average Number of Graduates per Year	First Implemented in
Maritime Operations	120	4 semesters	Master of Science	25	10	2017

The programme is jointly offered by:

- University of Applied Sciences Emden/Leer, Hochschule Emden/Leer (HEL)
- Western Norway University of Applied Sciences, Hogskulen pa Westlandet (HVL)

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Hanover, 21 March, 2023

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I Outcomes of the Review Process and Accreditation Decision

1 Accreditation Decision of the ZEvA Commission,

I. Outcomes of the Review Process and Accreditation Decision

1. Accreditation Decision of the ZEvA Commission,

The ZEvA Commission follows the recommendations of the expert panel and takes note of the consortium's written response to the accreditation report.

The commission accredits the Joint Master's programme in Maritime Operations without conditions for a period of six years.

The accreditation decision is based on the standards and criteria stipulated in the European Approach for the Quality Assurance of Joint Programmes.

2. Central Outcomes of the Assessment and Final Vote of the Expert Panel

2.1 Summary of the Experts' Findings

The experts have gained a positive impression of the joint Master's programme and are pleased with the growing number of applicants in the study programme, which has risen continuously (from 147 applicants three years ago to 385 this year). Increasing numbers of international students (EU and non-EU) show a growing international attraction and recognition of the study programme.

The programme is a direct outcome of a close cooperation between two universities of applied sciences, both of which contribute one obligatory semester (1st or 2nd semester) and one elective profile (3rd semester) besides overseeing the Master's thesis (4th semester). Lectures are taught in blocks, so that 3-5 week periods of intense in-class teaching and learning are followed by longer periods of project-based learning and self-studying.

The curriculum is well structured and integrates the two profiles that are clearly rooted in the key competences of the departments involved as well as in the focus on the regional maritime industry. The chosen project-based approach of teaching gives room for the students' individual specialisations while at the same time finding solutions for local companies. It is obvious that the study programme is well-suited to accomplish the intended learning outcomes. The learning and teaching are on a Master's level and the experts could gain a good impression from some of the Master's theses provided by the universities.

Facilities appear ideally suited for learning and researching and both universities are clearly committed to the programme and fund the programme out of their budgets. Teaching staff possess profound academic as well as practical expertise in the fields addressed by the study programme and teaching capacity is clearly not an issue.

The programme has been met with growing interest in the EU countries and beyond so that currently students of 14 nationalities are enrolled. The experts had the opportunity to talk to students and graduates and were told that participants were very content with the curriculum, the studying conditions, a familiar atmosphere on campus and especially the general support provided by highly motivated staff at both universities.

During the talks it became clear that the universities cooperate very closely on all levels. The programme already shows a high level of integration. Although local regulations provide the basis for student assessment, enrolment and quality assurance, the joint committees (steering and assessment committee) ensure a sufficient degree of jointness as regards these issues. Quality management is a joint responsibility of the steering committee, although the individual modules are evaluated following the individual regulations and procedures of the two partner universities.

In spite of these positive impressions, the experts still have found room for improvement as regards transparency issues. This applies to the programme's representation on the internet, which is based on two different websites provided by each university individually, resulting in discrepancies and out-of-date information. Alignment of module titles and the profile

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(sustainability in maritime operations) with the contents could be enhanced.

Information about the organisational structure and the project-based approach to teaching should be featured more prominently in the programme's description. The programme's intended learning outcomes could be more specific when it comes to the subject of maritime operations. A catalogue of suitable prior (bachelor) programmes should be included in the admission regulations.

Furthermore, the universities might want to formally introduce a part-time option into the programme, which, in fact, is already realised by some students who hold part-time jobs.

2.2 Recommendations for Enhancement

The experts give the following recommendations for the further development and enhancement of the programme:

Programme Profile and Intended Learning Outcomes (ILOs)

- The programme's intended learning outcomes could be more specific.

Curriculum

- The alignment of module titles and contents could be enhanced (e.g. "Philosophy of Science, Research Tools and Methods" and "Maritime Operations").
- The experts recommend aligning the speciality/profile "Sustainable maritime operations" with the content of the modules, either by introducing more specific theoretical background into the lectures or by adapting the title of the speciality to the current teaching contents (e.g. to "Maritime Operation and Sustainability").
- The project-based approach to teaching and learning and the special organisational structure of the programme (in-class teaching in several blocks) has to be made clearer.
- The experts suggest introducing a formalised and transparent part-time option into the programme.

Admission and Recognition

- The universities should develop a catalogue of suitable prior (bachelor) degrees which open access to the Master's programme and include this catalogue into the admission regulations.

Transparency

- The universities might consider developing a joint website for the study programme which is directly linked to both universities' homepages.

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2.3 Final Vote of the Expert Panel

The expert panel recommends the accreditation of the Master's programme in Maritime Operations without conditions.

In accordance with the stipulations of the European Approach for the Quality Assurance of Joint Study Programmes, accreditation is recommended for a period of six years.

II. Assessment Report of the Expert Panel

1. Purpose, Design and Context of the Assessment Procedure

In June 2021 ZEvA Hannover received the mandate from the Emden-Leer University of Applied Sciences to conduct an external quality assessment of the Joint Master's programme in Maritime Operations. The programme has been jointly developed, organised and run by the University of Applied Sciences Emden/Leer, Hochschule Emden/Leer (HEL) and the Western Norway University of Applied Sciences, Hogskulen pa Westlandet (HVL), since being accredited by ZEvA in 2017.

The universities decided to apply for an accreditation within the framework of the European Approach for Quality Assurance of Joint Study Programmes. The European Approach has been implemented fully or partly in the national legislative frameworks of both countries. Existing limitations or formal restrictions at national level do not apply to the Master's programme. Hence, the accreditation decision of ZEvA can be recognized in all partner countries.

Prior to the start of the review procedure, the German Accreditation Council (*Akkreditierungsrat*) was officially notified by the University of Emden-Leer, as stipulated in § 33 of the German *Musterrechtsverordnung*.

For the purpose of the assessment, ZEvA assembled an expert panel combining expertise in the relevant subject disciplines, knowledge of the potential labour market for graduates of the programme, as well as experience in quality assurance in higher education. The panel was composed of experts from both countries and also included one student expert. The panel was approved by the ZEvA Commission and by the universities.

The experts received written background information on the European Approach and further documents and templates for their assistance from the agency.

The universities submitted a self-evaluation report in English language, which contained extensive information about the partner institutions and their respective national frameworks, as well as an appendix of relevant documents (cooperation agreement including appendices, regulations for student assessment, selection and admission, CVs of core faculty, information material for students, course handbook/module descriptions, sample Diploma Supplement etc.). The self-report was forwarded to the experts for desktop validation.

On-site talks with the representatives of the study programme took place on the premises of Hochschule Emden/Leer on November 3, 2022. On the eve of the on-site-talks the experts and the ZEvA project coordinator met to discuss the documents provided and to clarify their roles and tasks.

Representatives of both degree-awarding universities participated in the talks, including members of the university leadership boards, administrative staff, academic and administrative programme coordinators, members of the teaching faculty as well as students and graduates of the programme.

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1 Purpose, Design and Context of the Assessment Procedure

This assessment report is based on the self-evaluation report submitted by the universities and the outcomes of the on-site talks. It is meant to serve as a basis for the accreditation decision of the ZEvA commission and, where applicable, as a reference document for the recognition of this decision by the responsible national bodies, including the German Accreditation Council.

The experts would like to thank all members of the two universities for the comprehensive self-evaluation report and the open, constructive discussion during the on-site talks.

2. Introduction: The Study Programme at a Glance

The programme consortium consisting of the University of Applied Sciences Emden/Leer, Hochschule Emden/Leer (HEL) and the Western Norway University of Applied Sciences, Hogskulen pa Westlandet (HVL) was established in 2016. Both universities are degree-awarding and the graduates receive one certificate which is jointly issued by both universities (joint degree).

The programme comprises a total of 120 ECTS credits, to be obtained within the period of two years (for full-time students).

All students take up their studies in Norway (1st semester) and continue in Germany (2nd semester). For the 3rd semester students choose between two profiles ("Sustainable Maritime Operations" / Germany or "Maritime Technology and Management" / Norway). Depending on their chosen profile, students write their Master's thesis in Germany or in Norway. Physical mobility at a scope of at least one semester (25% of the curriculum) is thus compulsory for all students.

The maximum intake capacity per year lies at a total of 25 students. The language of instruction and assessment is English.

The programme is aimed at bachelor graduates (primarily in marine engineering, ship building and offshore engineering) from across Europe and beyond, who are interested in technology, maritime operations and management, especially within an international and interdisciplinary setting. There is a selection committee that select and rank students based upon relevant academic background, which means that different bachelor programs can give access to the joint master program in Maritime Operations.

In didactic terms, the Master's programme applies a project-oriented approach. Students are free to choose projects, which often aim at developing solutions for (and possibly in cooperation with) the local industry. In all semesters the theory-based modules are taught in blocks of 3 to 5 weeks, leaving room for individual self-study and research in between the blocks.

3. Quality Assessment of the Study Programme

3.1 Eligibility

3.1.1 Status

The institutions that offer a joint programme should be recognised as higher education institutions by the relevant authorities of their countries. Their respective national legal frameworks should enable them to participate in the joint programme and, if applicable, to award a joint degree. The institutions awarding the degree(s) should ensure that the degree(s) belong to the higher education degree systems of the countries in which they are based.

Both degree-awarding partners are public universities of applied sciences. As such, they are fully recognized by the authorities in their respective countries and are entitled to award degrees and to participate actively in joint programmes. Whereas HVL is not obliged to undergo regular external accreditation of study programmes, this is compulsory for HEL due to German national legislation and the federal state law of Lower Saxony.

The awarded degree (Master of Science in Maritime Operations) is clearly associated with the second cycle of qualifications in the Framework of Qualifications for the European Higher Education Area. The universities have ensured that the awarded degree is in line with their national higher education degree systems.

Experts' Appraisal

As already stipulated in the context of the first accreditation procedure, the experts have no doubt whatsoever that both universities and the jointly awarded degree fulfil all formal requirements of the European Approach. Based on the formal stipulations of the cooperation agreement it can be safely assumed without further proof that the joint degree is in accordance with national legislative demands and will therefore be fully recognized in the respective countries.

The experts regard the standard as fulfilled.

3.1.2 Joint Design and Delivery

The joint programme should be offered jointly, involving all cooperating institutions in the design and delivery of the programme.

As was explained in the self-evaluation report and confirmed by the representatives of the universities in the course of the on-site talks, the initial programme was developed jointly in 2016 and has since been jointly organised and run by both universities. The staff involved in the study programme meets at least twice a year in addition to online jour fixes every fortnight. In addition, twice a year a video conference concerning the admission of new students is held. According to the cooperation contract, the steering committee (including external experts as well as students) meets once a year.

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The curriculum is designed in such a way that it could not be delivered by one of the partners on their own. Teaching responsibilities are equally shared between the partners, each university taking on the main responsibility for one of the possible profiles of the study programme. Leer is one of the most important centres of the shipping industry in Germany, with a focus on tramp shipping and project cargo. Haugesund is a renowned centre for offshore business in oil and gas.

Since the students move between Leer and Haugesund, the local regulations (admission, assessment) of each university apply, although both universities are involved in the process of student selection and admission, as well as the quality assurance and continuous enhancement of the programme. This is mainly ensured by a joint Steering Committee in which all partners are represented and which includes experts from the regional industry too. A joint admission commission has been installed especially for the purpose of student selection.

Experts' Appraisal

Practice has shown that both partners take equal responsibility for the programme and allow for a high degree of integration as regards teaching, quality assurance and organisation. Especially the steering committee is in charge of all decisions concerning the outlines and future development of the programme.

It is obvious that members of the universities are in continuous close exchange, both formally and informally, and both face-to-face and online.

The experts regard the standard as *fulfilled*.

3.1.3 Cooperation Agreement

The terms and conditions of the joint programme should be laid down in a cooperation agreement. The agreement should in particular cover the following issues:

- *Denomination of the degree(s) awarded in the programme*
- *Coordination and responsibilities of the partners involved regarding management and financial organisation (including funding, sharing of costs and income etc.)*
- *Admission and selection procedures for students*
- *Mobility of students and teachers*
- *Examination regulations, student assessment methods, recognition of credits and degree awarding procedures in the consortium.*

The universities have laid down the underlying terms and conditions of their joint programme in a cooperation agreement. A first agreement signed in 2016, with an addendum (2017) has been replaced by an updated cooperation agreement signed by the representatives of both partners in June 2022. All documents were presented to the expert panel as part of the self-evaluation report.

The agreement clearly stipulates that the partners are to award a joint Master's degree of Science (M.Sc.) in Maritime Operation upon completion of the programme (see cooperation

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agreement 5.8.5). The joint degree certificate will be issued in English. The graduates will also receive a diploma supplement from the institutions. Graduates can ask for a transcript of records.

The coordination of the study programme and the responsibilities of the partners are laid down in the agreement, e.g. the role of the steering and admission committees. Both partners send two representatives, the head of the programme and the dean of faculty into the steering committee as well as two students and two external experts from the maritime industry. The steering committee manages the administrative, legal and financial matters of the programme. The partners are committed to an internationalisation profile and use existing institutional resources to create and maintain the programme (e.g. travel and subsistence for joint meetings will be funded by each institution involved in the meeting). Students have to pay administration and student association fees (including a public transport ticket) only. There is no tuition fee.

Furthermore, the agreement contains basic regulations concerning degree-awarding and mutual recognition of credits, grading scale recognitions, joint supervision of the Master's theses, the procedure for student application, selection and admission, joint quality assurance, as well as the mobility of students.

The admission of students by the admission committee is based on relevant academic background (according to the self-report, p. 10 and "Access and Admission Regulations" Appendix, p. 130). All students will be registered and enrolled at both institutions.

According to the cooperation agreement both partner institutions agree to operate along the principle of "mutual recognition" of exam results and each other's rules and regulations. Students registered in an institution will follow the rules prescribed by this institution for a given semester.

Further rules on student examination, grading and assessment can be found in the specific institutional and national regulations of the participating universities, all of which are available in the respective national languages and in English translation (a recently revised version of the examination regulations at HEL is currently being translated and was therefore made available to the experts in German only).

Experts' Appraisal

The experts conclude that the consortium has sufficiently regulated all central issues regarding the joint management and coordination of the study programme in its cooperation agreement and the supplementary documents. The roles and responsibilities of the partners are laid out clearly, and there are binding regulations on all central formal, legal and organisational aspects of the cooperation.

From the experts' point of view, the written agreements underlying the study programme fully satisfy the requirements of the European Approach.

Regarding the students' admission the experts suggest the universities develop a written catalogue of suitable prior (bachelor) degrees to be included in the admission regulations.

Furthermore, the experts are confident that the newly made changes on the examination regulations are made available to the students in English translation.

The experts regard the standard as fulfilled.

3.2 Intended Learning Outcomes (ILOs)

3.2.1 Level

The intended learning outcomes should align with the corresponding level in the Framework for Qualifications in the European Higher Education Area (FQ-EHEA), as well as the applicable national qualifications framework(s).

According to the programme description (Appendix, p. 169) *“the graduates will be placed in a position to independently and responsibly solve technical, operational and managerial problems related to the maritime field using various methods and instruments conveyed during the course of the programme. A student graduated from the Master of Maritime Operations has a broad competence related to technical, operational and managerial aspects of the maritime industry.*

Besides specialized expertise within ship technology and maritime operations, the takeover of management duties often also requires leadership skills and management techniques as well as mental maturity, self-confidence, independence, decision-making abilities and the sense of responsibility. According to this the International Master in Maritime Operations also focuses on the acquisition of methodological and social competence as well as personal development. Intercultural competence of the graduates is promoted during some of the courses, but also during at least one semester abroad within the joint Programme.”

The intended learning outcomes are described as follows in the Diploma Supplement and online:

“Knowledge:

The candidate:

- 1. has advanced knowledge in the academic field of maritime operations, giving an overview of the maritime environment*
- 2. has specialized insight in maritime operations and its processes*
- 3. can apply knowledge to new areas related to maritime operations*
- 4. has thorough knowledge of theories and methods in the field of maritime operations*
- 5. can analyse academic problems related to the maritime field on the basis of history, tradition, distinctive characters and the place in society of the maritime industry*
- 6. has thorough knowledge of theories about environmentally friendly systems and can discuss these in an operational view*
- 7. can apply his/her knowledge about the clues of safe and environmental maritime operations to the academic field*

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Skills:

The candidate:

1. *can analyse existing theories, methods and interpretations, e.g. system analysis, cost benefit analysis, optimisation and risk assessment, in the field of maritime operations*
2. *can deal critically with various sources of information both in the maritime and related fields and use them to structure and formulate scholarly arguments relevant for maritime operations*
3. *can use relevant methods for research and scholarly development to work independently on practical and theoretical problems related to maritime operations*
4. *can carry out an independent, limited research or development project under supervision and in accordance with applicable norms for research ethics*
5. *can analyse existing methods and interpretations in the maritime field and work independently on practical and theoretical problems relevant for maritime operations.*

General competence:

The graduate:

1. *can apply his/her knowledge and skills in new areas in order to carry out advanced assignments and projects*
2. *can communicate extensive independent work and master language and terminology related to maritime operations, incl. rules, legislation and classification as well as knowledge of maritime technology and innovation*
3. *can contribute to new thinking and innovation processes within the maritime field and independently initiate and implement academic and interdisciplinary collaboration*
4. *can analyse relevant academic, professional and research ethical problems related to the maritime field*
5. *can assume responsibility for own academic development and specialization and qualify for the PhD-programme in nautical operations*
6. *can communicate about academic issues, analyses and conclusions related to maritime operations with both specialists or the general public*

The learning outcomes defined for the Master of Maritime Operations as described above are set out to cover the different aspects of maritime operations and provide the candidates with knowledge, skills and general competence necessary for a complete and overall approach to both academic and practical problems related to operations within the maritime industry.”

3.2.2 Disciplinary field

The intended learning outcomes should comprise knowledge, skills, and competencies in the respective disciplinary field(s).

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The learning outcomes as listed above cover the aspects of ship technology, maritime operations and management and refer to the realms of knowledge, skills and general competencies.

According to the self-report the programme integrates a range of disciplines in the fields of engineering, physics, economics, law and social science in order to convey the technical, operational and managerial skills required by the multidisciplinary/interdisciplinary maritime industry.

3.2.3 Achievement

The programme should be able to demonstrate that the intended learning outcomes are achieved.

According to the universities graduates have found employment in the maritime industry in Norway, Germany and beyond. The first graduates of 2019 have been employed by local shipping companies, ship operating companies, maritime authorities, engineering companies as well as offshore wind technology companies.

According to the self-report (p. 44) the percentage of students exceeding the standard period of study by one semester or more lies at 18 % for the current year (in the two years before this rate lay at 22% and 7%, respectively). During the on-site talks students and staff reported that a number of students were already working while studying, although the programme was originally designed as full-time programme. This happens based on individual agreements with the partner universities, who are generally willing to enable part-time studies for those students in need.

3.2.4 Regulated Professions

If relevant for the specific joint programme, the minimum agreed training conditions specified in the European Union Directive 2005/36/EC, or relevant common trainings frameworks established under the Directive, should be taken into account.

The standard is not applicable to this programme.

Experts' Appraisal

The experts assert that the intended learning outcomes of the programme are in line with the Master's level as described by the Framework for Qualifications in the European Higher Education Area (FQ-EHEA) and the respective national qualifications frameworks derived from it. They are also compliant with Level 7 of the European Qualification Framework (EQF). The ILOs include the acquisition of specialized knowledge in the field of maritime operations, as well as research skills and advanced soft skills.

However, the wording/formulation of the ILOs at programme level appears to be rather generic to the experts. According to the universities, the programme's ILOs were formulated with a close view to Norwegian national standards, which left little room for flexibility. Nevertheless, the experts recommend being as specific as possible in order to create full transparency for applicants and potential employers. This could be done by giving additional information for example on the website about special skills attained as well as about possible occupations for graduates.

According to the university so far 57 students have graduated. A special survey is under way, but it can be said that graduates have found employment in a range of occupations in the maritime industry. Students and graduates found the programme's content and learning methods helpful for their present occupations and/or the line of work they are planning to get into.

As regards the achievement of learning outcomes in due time, the experts suggest introducing a part-time option into the programme. At least it should be made more transparent that individual part-time schedules are possible, especially for students who are already working part-time.

The experts regard the standard as fulfilled.

3.3 Study Programme

3.3.1 Curriculum

The structure and content of the curriculum should be fit to enable the students to achieve the intended learning outcomes.

The programme comprises a total of 120 ECTS credits, to be obtained within the period of two years. The language of instruction and assessment is English.

The first and second semester consist of compulsory courses which form the basis for the choice of further specialization in the third semester of the study programme. All students take up their studies in Norway (1st semester) and continue in Germany (2nd semester). For the 3rd semester students choose between 2 profiles ("Maritime Technology and Management" / Norway or "Sustainable Maritime operations" / Germany). According to their chosen profile students write their master thesis (30 ECTS) in Germany or in Norway.

The first semester consists of the compulsory modules "Philosophy of Science, Research Design and Methods", "Safety and human factors" and "Modern ship design: Safety, Limitations and Hazards" (10 ECTS credit points each). During the second semester students need to complete the modules "Maritime Computational Fluid Dynamics", "Cost Accounting", "Ship Propulsion Systems", "Quality and Risk Management" and "Applied Approach to Tools of Optimization and Simulation" (6 ECTS each).

For the third semester students may choose between the following profiles

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- “Sustainable Maritime Operations” (HEL) comprising the modules “Technical Aspects of Sustainable Maritime Operations” (including sustainable propulsion technology like LNG and sailing), “Operational Aspects of Sustainable Maritime Operations” and “Economical Aspects of Sustainable Maritime Operations” (6 ECTS each) and the module “Maritime Project” (12 ECTS), derived from the faculty’s research projects.
- “Maritime Technology and Management” (HVL) consisting of the modules “Subsea Systems and Operations”, “Maritime Operations” and “Ship Operation- and Maintenance Management” (10 ECTS each).

Students finish their studies at the university of their chosen specialisation with their Master’s theses (4th semester, 30 ECTS).

In the programme description (Appendix, p-172) the didactic approach of the programme is outlined as follows:

“The teaching and learning methods are varied and aim to make the students actively participate and build up independent thinking. The teaching methods vary, with lectures, solving exercises in groups, and problem-based learning being the most common. In addition to individual work, group work is encouraged throughout the programme. It is expected that the students show up for class well prepared, as the lecturers place a significant amount of time and effort in preparing the lectures.

Information and communication technology are integrated in the teaching, with Moodle/Fronter and computer-based support systems as important tools in the scientific and educational work.

[...]

A research-based and analytical approach to the topics is a key feature of the study. This means that teaching reflects a methodological approach to problems and the use of academic themes. Most lecturers conduct research and they convey their knowledge to students by combining theoretical and applied insights as well as exposing students to research issues and results from the industry at an early stage. In addition, the students learn about Philosophy of science, research design and methods in the first semester. This course is tightly connected to several other courses within the Programme, such as e.g. the Maritime HTO-course and the master thesis.”

According to the programme description (Appendix, p.172) the forms of assessments include portfolio, written exams, oral exam, project thesis, to ensure students can be tested on several aspects such as theory, ability to reflect, to work in groups, academic skills etc.

Experts’ Appraisal

The experts have gained a positive overall impression regarding the structure and content of the study programme. The curriculum is well-structured with respect to the intended learning outcomes.

The introductory courses of the first semester together with an optional bridging course will

enable students from the different subjects admitted to the programme to acquire the necessary basis to approach the field of Maritime Operations. The students and graduates who were interviewed during the site visit reported that especially the module “Philosophy of Science, Research Design and Methods” was particularly helpful for mastering the requirements of the programme and the final thesis.

The teaching of lectures in blocks and the possibility to choose between two specialization profiles enables students to follow their individual interests, develop their own academic profile and take part in the universities’ research projects.

For further enhancement the experts would like to suggest reconsidering the titles of some modules with a view to the teaching content.

It became apparent that within the profile “Sustainable Maritime Operations” the subject of sustainability is approached via chosen project topics, but not necessarily introduced as a concept. As sustainability has meanwhile become an issue of central importance in the maritime sector, the experts feel there should be more theoretical background incorporated into the specialized profile. The theory of sustainability should be introduced into the curriculum in order to provide the students with a more holistic perspective on the topic. In particular, there should be a focus on renewables. (An alternative option would of course be to rename the profile (e.g. to “Maritime Operation and Sustainability”) to give a more accurate impression of the actual teaching contents.)

In addition, there are some modules in which title and contents should be brought into closer alignment. For instance, this applies to the module “Technical Aspects in Maritime Operations”, which actually takes a strong focus on low-emission propulsion systems and should therefore be denominated accordingly.

Although the experts have no doubt that the admission committee chooses the right participants, they feel that for the sake of transparency there should be a catalogue of suitable (bachelor) programmes that the applicants should ideally have graduated from.

Furthermore, the special organisational structure which foresees only 3 to 5 weeks of compulsory on-site teaching each semester should be made transparent in the programme descriptions.

The experts regard the standard as *fulfilled*.

3.3.2 Credits

The European Credit Transfer System (ECTS) should be applied properly and the distribution of credits should be clear.

The ECTS including the grading scale for the recognition of study periods is fully implemented in the study programme. The ECTS credits awarded for each module/educational unit are published in the module description as well as in the examination regulations (see appendix). All modules are credited with 10 ECTS credits (at Haugesund) and 6 or 12 ECTS credits

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(maritime project) at Leer. For the Master's thesis, both partners award 30 ECTS credits.

Qualifications obtained in other Master's programmes can be credited upon request, based on their equivalence to the knowledge and skills imparted in the study programme.

Experts' Appraisal

From the experts' point of view, the curricular structure and the awarding of credits within the programme are very clearly and transparently described. The application of the ECTS is fully in line with the recommendations of the ECTS Users' Guide.

The workload calculation has been harmonised throughout the programme. One ECTS credit point is now equivalent to an average of 26 hours, which lies within the regular range of 25 to 30 hours per credit. .

The experts regard the standard as fulfilled.

3.3.3 Workload

A joint bachelor programme will typically amount to a total student workload of 180-240 ECTS-credits; a joint master programme will typically amount to 90-120 ECTS-credits and should not be less than 60 ECTS-credits at second cycle level (credit ranges according to the FQ-EHEA); for joint doctorates there is no credit range specified.

The workload and the average time to complete the programme should be monitored.

The Master's programme amounts to a total student workload of 120 ECTS credits (60 ECTS credits per year, 30 credits per semester). According to the self-report each credit point equals an average student workload of approximately 26 hours. Students are expected to invest a minimum of 40 hours of productive work per week, which amounts to about 1600 hours per year.

All students are asked to evaluate their modules, including the plausibility of the calculated workload. The partner universities have developed different ways of monitoring student workload, based on their own internal regulations and procedures for quality assurance in teaching and learning. These are described in detail in the self-report. At HVL the workload is also addressed in reference groups where students discuss and reflect the courses with the lecturers, who may adjust teaching or assessment methods as a result.

In addition, the consortium monitors the time it takes students to complete the programme.

Experts' Appraisal

As regards the total student workload and the number of credits awarded, the programme is in full accordance with the Framework of Qualifications for the European Higher Education Area. Student workload is continuously monitored both at the level of the educational components and at the overall programme level.

Both partners are informed about the results of the surveys and can take joint measures in

response if required.

The experts regard the standard as fulfilled.

3.4 Admission and Recognition

3.4.1 Admission

The admission requirements and selection procedures should be appropriate in light of the programme's level and discipline.

So far the programme has been met with a growing number of applicants,

According to the self-report the application and selection procedure for the programme is jointly organised. The admission process is defined in the cooperation agreement and implemented in the regulatory system of HVL. All students formally apply at HVL since the first semester takes place at Haugesund. The partners decide jointly on the maximum number of students to be accepted into the programme and define the percentage of places open for non-EU students.

The Selection Committee will select the students on the basis of their relevant academic background (bachelor or equivalent). Admission may be granted to graduates who have obtained an academic degree of at least 180 ECTS (bachelor's degree or equivalent) in relevant scientific disciplines like ship building/naval architecture, nautical sciences, ship engineering, shipping management (logistics, administration) as well as marine engineering or similar fields with connection to the maritime sector (see self-report p. 20). Another prerequisite for applicants are English language skills at B2 level.

Procedures for ranking and selecting candidates are described in detail in the self-report.

Experts' Appraisal

The experts regard the admission requirements and the selection procedure as appropriate in light of the desired qualification level and the academic disciplines involved.

The experts regard the standard as fulfilled.

3.4.2 Recognition

Recognition of qualifications and of periods of studies (including recognition of prior learning) should be applied in line with the Lisbon Recognition Convention and subsidiary documents.

Students who have already studied similar modules or have obtained equivalent competences and skills at Master's level in other contexts can apply for recognition of these qualifications. For the Norwegian side this process is regulated by the "Regulations relating to studies and examinations at the Western Norway University of Applied Sciences, Section 2-10". On the German side § 17 of the programme-related exam regulations ("Prüfungsordnung") applies (see Appendix).

In general, the cooperation agreement provides the basis for recognition:

“Both partner institutions agree to operate along the principle of “mutual recognition” of exam results and each other’s rules and regulations. Students registered in an institution will follow the rules prescribed in the institution for a given semester.”

Recognition of prior learning is also possible, based on the equivalence of learning outcomes and the stipulations of the Lisbon Convention.

Experts’ Appraisal

In the experts’ opinion the universities are committed to the principles of the Lisbon convention.

The experts regard the standard as fulfilled.

3.5 Learning, Teaching and Assessment

3.5.1 Learning and Teaching

The programme should be designed to correspond with the intended learning outcomes, and the learning and teaching approaches applied should be adequate to achieve those. The diversity of students and their needs should be respected and attended to, especially in view of potential different cultural backgrounds of the students.

According to the self-report didactic methods chosen for the different courses within the programme are carefully selected to secure a solid overall connection between the courses’ content, learning outcomes, teaching methods and forms of assessment. The chosen methods of teaching are named in the module descriptions and described in detail in the self-report. The compulsory courses of the two first semesters and the elective courses in the third semester are mainly organised as seminars, with lectures, tutorials, colloquia and in group discussions, practical assignments, software assisted assignments, as well as laboratory and simulator exercises. The courses also include expert presentations relevant for the courses. This is meant to help the students in developing an understanding of the courses in addition to preparing them for further work with self-studies and finally the Master’s thesis. During the seminars, the students will have to get involved in group work and present the results of their work in class.

Experts’ Appraisal

In the experts’ opinion, the learning and teaching methods are well-aligned with the intended learning outcomes and the teaching contents. In addition, a variety of teaching approaches within the seminars should accommodate students from different backgrounds.

The experts regard the standard as fulfilled.

3.5.2 Assessment of Students

The examination regulations and the assessment of the achieved learning outcomes should correspond with the intended learning outcomes. They should be applied consistently among partner institutions.

According to the self-report the forms of assessment chosen for the different courses within the programme are carefully selected to secure a solid overall connection between the course content, learning outcomes, and the chosen methods of teaching and assessment. The type of examination is stipulated in the module description. Typical types of assessment are portfolios (frequently used) as well as written exams, oral presentations, oral exams or project theses/ term papers.

Students' assessments have to meet the formal requirements set out in the regulations for the institutions involved, but also the requirements specified within each course. Information regarding the assessment forms and connected requirements is provided by lecturers at the start of the semester. The types of assessment chosen for each course are to be found in the course syllabi. All exams will be marked using either the grading scale A-F (Norway) or 1-5 (Germany).

Experts' Appraisal

In the experts' opinion, the chosen forms of assessment correspond well with the intended learning outcomes of the programme and the individual modules. The consistent application of assessment regulations is warranted. Students and graduates were content especially with the portfolios, which enable them to plan their workload well in advance.

The experts regard the standard as fulfilled.

3.6 Student Support

The student support services should contribute to the achievement of the intended learning outcomes. They should take into account specific challenges of mobile students.

As was described in the self-report and further underlined in the course of the on-site talks, both universities provide support services for students. Each university employs an administrative programme coordinator. Both of them work together closely in the organisation of the programme.

Both universities undertake to provide information, support and help for the students in preparation for the programme, in obtaining visas, finding suitable accommodation, orientation, language support, personal development, counselling, careers advice, financial matters, health and general welfare.

To guarantee the support of the students as described above HEL hires two student assistants for each semester. A lot of information about daily life is given on the homepage of the institutions. If necessary a buddy programme is available.

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Besides this both universities offer a wide range of services to support international students. Both have an International Office to take special care of the international students. The International Offices organise events to help integrating the students and offer excursions for cultural exchange. Furthermore, buddy programmes have been implemented to help international students master the first few weeks abroad. For the 2nd Semester in Leer all students are expected to start with an intensive language course two weeks prior to the lecture period. Furthermore, sports activities and excursions to destinations within and outside the region shall enhance cultural understanding. Intercultural preparation for the second semester takes place during the first semester in the form of a short-term lectureship in Norway. In addition, students can join all events directed at foreign students at HEL, such as “German Evenings”, “Welcome Workshops” etc.

Experts’ Appraisal

The experts conclude that both universities offer excellent student support services. The local administrative coordinators may be addressed by the students in all non-academic issues and ensure that all students can easily integrate into the life of their host universities and know whom to address.

Students and graduates emphasised the outstanding support they get at both locations.

The experts regard the standard as *fulfilled*.

3.7 Resources

3.7.1 Staff

The staff should be sufficient and adequate (qualifications, professional and international experience) to implement the study programme.

According to the self-report, eight professors, seven assistant professors and one Ph.D. student are involved in the study programme at HVL.

At HEL eight professors teach in the programme. In addition, another 24 persons function as supervisors for students who are working on their master’s thesis. All faculty and staff have a specialization in technology, ship operation or management, or in a combination of these fields of expertise. Several members of faculty have experience from different positions onboard vessels, in the maritime industry or in academic research in fields relevant to the programme.

The experts got the opportunity to interview faculty members from both universities during the on-site visit and CVs were included in the self-report.

3.7.2 Facilities

The facilities provided should be sufficient and adequate in view of the intended learning outcomes.

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Both universities' facilities were described in detail in the self-report, especially the technical equipment for ship operation, nautical and material science like navigation simulators, manoeuvring basins or laboratories for virtual reality, maritime environmental technology, ship propulsions and ship operating systems.

During the on-site visit at Leer the experts were given the opportunity to see the facilities for teaching and research as well as the library at HEL in Leer.

Experts' Appraisal

The experts have found that the programme benefits from excellent teaching as well as administrative staff at both universities.

The core teaching faculty consists of internationally experienced and highly qualified researchers whose personal profiles and focus areas complement each other very well in the context of the programme. It became very clear during the talks that the partners have known each other for a long time and have built up close cooperative relationships. The same applies to the administrative staff who possess long-term experience with managing this programme and tend to the needs of both international and mobile students. The regular exchange between the programme coordinators contributes to a smooth management and organisation of the programme.

Based on the self-report and the on-site visit the experts are impressed by the infrastructure, facilities and equipment of both institutions which provide an ideal learning environment for students to achieve the intended learning outcomes of the programme. As far as the experts can see, the financial resources of the programme are sufficient and ensure stability for the next years to come.

The experts regard the standard as fulfilled.

3.8 Transparency and Documentation

Relevant information about the programme like admission requirements and procedures, course catalogue, examination and assessment procedures etc. should be well documented and published by taking into account specific needs of mobile students.

According to the self-report all relevant information is available on the websites of the two partner universities (<https://www.hvl.no/en/studies-at-hvl/> and

<http://www.hs-empden-leer.de/en/studying/study-programs.html>). The homepage of HEL is currently being redesigned.

Online documents and information include:

- Examination regulations
- Module descriptions
- Access and admission regulations
- Examination dates and deadlines for application

- Results of student evaluation
Useful links and information about daily life and local events

Experts' Appraisal

The experts conclude that the universities have taken measures to create transparency regarding the programme, both for the international student body and the general public (even if the HEL homepage is under construction right now).

The experts would like to suggest creating a joint website that contains all necessary information for the study programme and is directly linked to both universities' homepages. In this way it would be easier to maintain the same level of information and avoid discrepancies.

Other issues regarding transparency have already been discussed in the chapters above.

The experts regard the standard as fulfilled.

3.9 Quality Assurance

The cooperating institutions should apply joint internal quality assurance processes in accordance with part one of the ESG.

The universities apply a combination of local and joint quality assurance procedures, which are described in detail in the self-report. These procedures include anonymous evaluations of the courses, options for direct feedback by the students and a programme council which takes place once a year.

The two heads of the study programme (HEL/HVL) will monitor the educational process in all the modules, as well as the students' feedback and progression. Results of the evaluation conducted by the partner universities are discussed and analysed by the steering committee and used for further development.

In addition, work meetings of those involved in the programme take place twice a month to guarantee a quick and effective exchange of information which is also beneficial for quality assurance.

Quality Assurance HEL:

An internal university procedure for the new courses and further development of existing degree courses ensures alignment with the university's mission statement and strategic objectives. Also, the state ministry's requirements, the availability of the necessary resources and future potential of the study programme are taken into account. The question of the degree courses being up-to-date and scientifically valid is regularly subject to critical and external evaluation in accreditation procedures.

To ensure the didactic and methodological development of staff and curricula, the university has its own university didactics department ([CampusDidaktik](#)) to ensure the didactic and methodical development of staff and curricula.

II Assessment Report of the Expert Panel

3 Quality Assessment of the Study Programme

The university's quality assurance procedure guarantees that the Maritime Operations degree course is subject to continuous monitoring (e.g. first-semester survey; students' evaluation of teaching).

Quality Assurance HVL:

All Norwegian universities and colleges must have a satisfactory internal system for quality assurance of the educations. NOKUT is a national body for quality in education and is responsible for controlling the quality of Norwegian higher education institutions including evaluation and approval of the institutions quality systems. HVLs quality assurance system has been approved by NOKUTs board in December 2020.

Elements of quality assurance at HVL are for example, revision of courses and programmes of study involving students, employees and representatives from the field of practice/work life. Meetings with reference groups or with the entire class are to be held as well as anonymous surveys at the course level and the academic year group level in addition to periodic evaluations of the programmes of study.

Experts' Appraisal

The experts have come to the conclusion that the partner universities have designed a functional quality assurance concept for the programme, that takes the level of the individual courses/ modules and the programme level into consideration.

Surveys for evaluation, relevant data on student success and student performance are also collected for the purpose of quality assurance. As laid out in the cooperation agreement, the joint steering committee is in charge of the programme's further development on the basis of information and data collected by both partner universities.

The experts regard the standard as *fulfilled*.

III Appendix

1 Response of the Consortium to the Expert Report

III. Appendix

1. Response of the Consortium to the Expert Report

Comments to the accreditation report

We could not detect mistakes or misunderstandings from your side in the report.

Comments to the recommendations for enhancement:

We thank the expert panel for the recommendations made. They are considered as being very helpful. In the middle of February we have a joint workshop with our Norwegian partners in Copenhagen where we will address and discuss all your comments given.

Programme Profile and Intended Learning Outcomes

We will add testimonials to our homepage as well as examples for job opportunities to show the special skills and after degree possibilities.

Curriculum

The alignment of module titles and contents could be enhanced

We will discuss this topic in Copenhagen with our partners.

The experts recommend aligning the speciality/profile “Sustainable maritime operations” with the content of the modules, either by introducing more specific theoretical background into the lectures or by adapting the title of the speciality to the current teaching contents (e.g. to “Maritime Operation and Sustainability”).

We will include a module about theoretical sustainability into the curriculum. This will be mandatory to pass the module of “Maritime Project”. Furthermore, the module description of “Technical Aspects of Sustainable Maritime Operations” will be adjusted.

The project-based approach to teaching and learning and the special organisational structure of the programme (in-class teaching in several blocks) has to be made clearer.

This will be communicated at the homepage by giving information about the study structure.

The experts suggest introducing a formalised and transparent part-time option into the programme.

We offer individual solutions to students who asked for a part-time option. For future reference this information will be given on our homepage.

III Appendix

1 Response of the Consortium to the Expert Report

Admission and Recognition

The universities should develop a catalogue of suitable prior (bachelor) degrees which open access to the Master's programme and include this catalogue into the admission regulations.

The catalogue is already developed and will be published on the homepages.

Transparency

The universities might consider developing a joint website for the study programme which is directly linked to both universities' homepages.

Both homepages related to the master course are in update now and will give the same information to interested people afterwards. The update of the content is discussed in two weekly work meetings between the universities.

Sincerely

Prof. Dr. Marcus Bentin

(Doctor of Engineering, Hiroshima Univ., Japan)

-Schiffstechnik-

Dekan des Fachbereichs Seefahrt & Maritime Wissenschaften