ASIIN Seal

Accreditation Report

Master's Degree Programme
Advanced Ship Technology

Provided by
Alexandria University & Military Technical College for Maritime Technology Studies Institute

Version: 2022-12-09

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A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
	Master of Science in Advanced Ship Technology	ASIIN	--	TC 01
Date of the contract: 06 January 2021 **Submission of the final version of the self-assessment report:** 12 January 2021 **Date of the visit:** 21.09.2022 **at: online**				
Peer panel: Dr. Christian Hanisch, Festo AG&Co.KG Prof. Dr. Florian Sprenger, University of Rostock Natascha Guenther (Student), University of Applied Sciences				
Representative of the ASIIN headquarter: Dr. Michael Meyer				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 10, 2015				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes

[2] TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 03 - Civil Engineering, Geodesy and Architecture; TC 04 - Informatics/Computer Science; TC 05 - Materials Science, Physical Technologies; TC 06 - Engineering and Management, Economics; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Forestry, Food Sciences, and Landscape Architecture; TC 09 - Chemistry; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics.

Subject-Specific Criteria of Technical Committee 01 – Mechanical Engineering/Process Engineering as of March 16, 2021	

B Characteristics of the Degree Programme

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Advanced Ship Technology	Master of Science	--	Level 7	Full time		4 Semester	80 Credit hours/120 ECTS	Winter semester 2021/22

For the Master's degree programme the institution has presented the following profile in the self-assessment report:

The Master Course „Advanced Ship Technology" prepares the graduates by solidifying their engineering, mathematical and natural science skills for scientific tasks in naval architecture, ocean engineering and related mechanical engineering disciplines. The graduates possess a critical awareness against new knowledge in their discipline, on which basis they are enabled to act responsible in their professional and societal environment. The occupational orientation can either related to the design of ships, or to more dedicated areas, such as hydrodynamics or strength of structures.

The graduates can analyse problems scientifically and solve them, even though they are not typical or only partially defined with conflicting objectives. Complex tasks can be solved by abstracting from on-going research and development activities in their discipline. Innovative and new methods can be used to find fundamental solutions. Knowledge gaps can be identified and solutions can be proposed to overcome these gaps. Theoretical and experimental investigations can be planned and executed. Results can be analysed critically and conclusions can be drawn. Emerging technologies can be analysed and reviewed. By doing so, graduates can classify knowledge from different disciplines systematically and thereby cope with complex problems. Further, they are able to reflect on the non-technical aspects of their engineering tasks responsibly. They can expand on the knowledge gained and develop further competences with the aim to succeed with a doctoral thesis. Consequently, the key skills from the preceding Bachelor education relevant for practical engineering tasks will be expanded in this Master course.

[3] EQF = The European Qualifications Framework for lifelong learning

Knowledge

The students can explain the methods used in ship technology in general and are able to give a detailed overview of their subject.

The students can explain the methods and application areas of the disciplines taught in this master program in detail

The students can repeat the methods used in ship technology and can give an overview of the relevant social, ethical, ecological and economical boundaries of their subject.

Skills

The students can analyse typical problems of ship technology based on their sound knowledge and identify and implement solution methods. They are able to communicate the identified solution path in written.

The students can work on practical problems of ship technology, can identify suitable methods to solve problems, can develop them further and explain them to a general audience in detail.

The students can work on research question by using appropriate methods independently, can document their solution path and present their findings to a topic-specific audience.

Social competences

The students are able to present their approach and results in written and orally clearly.

The students can discuss contents and challenges of ship technology with experts and non-professionals. They are able to react to question and comments adequality.

The students are able to work in groups. They can identify, distribute and integrate sub-tasks. They can agree on scheduling and interact socially.

Competences for independent working

The students can acquire relevant topic specific information and place it in the context of their knowledge.

The students can assess their own competences realistically and identify and surpass own deficits independently.

The students learn about specific topics independently and self-motivated and are able to do so continuously, i.e. life-long-learning.

C Peer Report for the ASIIN Seal

1. The Degree Programme: Concept, content & implementation

Evidence:

- Self-Assessment Reports
- Study plans of the degree programmes
- Module descriptions
- Webpage of all study programmes
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The auditors base their assessment of the learning outcomes as provided on the websites and in the Self-Assessment Reports of the three Bachelor's degree programmes under review. They refer to the Subject-Specific Criteria (SSC) of the respective Technical Committee for Mechanical Engineering.

The peers confirmed adequate study aims to the level 7 of the European Qualification Framework. They recognise that graduates should get consolidated knowledge of mathematic-scientific and engineering principles of mechanical engineering with regard to ship technology and a critical awareness of the newest findings in their discipline. They should be able to analyse and solve problems scientifically by using innovative methods of their discipline. They should be qualified to develop solutions for partially unusual problems and apply their scientific ability to judge in order to work with complex, technologically impure or incomplete information. The university also has in mind, that graduates should be able to assess applicable techniques based on their imminent knowledge and to assess their limits as well as to recognise non-technical effects of engineering activities systematically.

The auditors hold the view that the objectives and intended learning outcomes of the programme under review are reasonable and well founded. Nevertheless, they wonder why the university does not consider aspects of digitalisation and sustainability in their study aims, as these fields currently are the most discussed subjects in the discipline of mechanical engineering and in ship building as well. They understand that the university does not consider it, as the expertise of the teaching staff does not represent these topics and they

recommend, to include more aspects of sustainability and digitalization into the study programme.

The peers learn that various stakeholders (industrial and governmental representatives) are involved in the development of the study profile.

The peers concur with the programme coordinators that graduates will have very good chances on the labor market, as the level of education offered in this programme is unique in Egypt.

In summary, the auditors are convinced that the intended qualification profile of the programme under review allows students to take up an occupation, which corresponds to their qualification. The peers conclude that the objectives and intended learning outcomes of the degree programme adequately reflect the intended level of academic qualification and correspond sufficiently with the ASIIN Subject-Specific-Criteria (SSC) of the Technical Committee 01 – Mechanical Engineering

Criterion 1.2 Name of the degree programme

Evidence:

- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The auditors confirm that the name of the degree programme under review corresponds with the intended aims and learning outcomes as well as the main course language.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Reports
- Module descriptions
- Webpages of all study programmes
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The study programme is offered by Alexandria University in cooperation with the National Academy of Maritime Technology (NAMT) of the Military Technical College. While Alexandria University is responsible for the programme and awards the graduation both institu-

tions take part in the development of the programme and teaching staff from both institutions is involved in the curriculum. Additionally within a project of the European Union teaching staff of the Technical University Hamburg is involved in the programme.

The curriculum includes the following technical mandatory courses Seakeeping of Ships and Model Tests on Naval Architecture, Advanced Propulsion Systems, Ship Dynamics in Calm Water and Waves, Structural Analysis of Ships and Offshore Structures, Non-Linear Structural Analysis, Fatigue Strength of Ship Structures, Ship Vibration, Ship Production, Shipyards Organization, Special Topics on Ship Safety and Fundamentals of Offshore Engineering. Additionally, besides a research project, students have to complete a course regarding presentation skills and a module regarding scientific English. The master thesis is placed in the final semester.

From the point of view of the peers the curriculum is well structured and implements all the defined study aims and learning outcomes in the fields of ship design, ship structural design and strength, fluid dynamics, ship machinery, ocean engineering as well as planning and production.

Nevertheless, they wondered about the value of the module “fundamentals of offshore engineering” since the programme title and study aims focus on ship technology. The auditors understand that the University concentrates on shipbuilding but also wants to broaden it to some other fields. The peers accept this approach as the study aims regarding technical aspects are already implemented well by the other modules in the curriculum.

The peers raised the question, why the module “Advanced Propulsion Systems” includes the topic hydrodynamics of highspeed marine vehicles. Based on the title of the module, this is unexpected. The peers agree that the topic is important and should be covered and recommend a modification of the module title.

The peers understand the wish of the students mentioned during the discussion to learn different programming languages. Obviously, the university concentrates on one language during the exercises. With regard to the general lack of digitalisation aspects as mentioned before the peers recommend to offer more opportunities for students to improve their programming abilities in different languages.

Finally the peers wonder how students are trained to be “able to reflect on the non-technical aspects of their engineering tasks responsibly” as it is mentioned in the study aims. In the module “Shipyard Organization” economic aspects are mentioned but obviously only touched upon and the peers do not find social, cultural or ecological aspects in the curriculum. Therefore, they recommend, to implement elective courses about these aspects to address the objectives of the programme.

In summary, the peers find the technical aspects of the study aims implemented very well. Regarding the non-technical objectives, the peers see some opportunities for improvement. So in total the peers expect very good chances for the graduates of this programme on the labor market in the field intended by the university.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Reports
- Admission regulations
- Discussions during the audit

Preliminary assessment and analysis of the peers:
For the admission to the master programme a Bachelor's degree is required of at least 180 ECTS-Points in the field of Naval Architecture and Marine Engineering, Mechanical Engineering, Steel Construction, Electrical Engineering, Mechatronics or Information Technology or in a study programme with essentially the same content. The Bachelor programme has to include at least 24 ECTS-Points in mathematics and the same extent of technical mechanics. Additionally, requirements are defined regarding the English skills of the students as the courses are taught in English.

With these qualifications applicants can be admitted into a preparatory semester. Responsible for the admission is the admission committee formed by one professor from Alexandria University, one professor from the Military Technical College, one representative of the Egyptian Navy, one representative of thyssenkrupp Marine Systems GmbH and two independent professors out of the field of ship and marine technology.

During the preparatory semester applicants with a bachelor in naval architecture and marine engineering have to pass the preparatory courses: Advanced Marine Hydrodynamics I, Advanced Marine Structural Analysis I, Partial Differential Equations and Advanced Mechanical Analysis to be accepted for the master programme. Applicants from other engineering disciplines have to pass additional courses from the bachelor programme at Alexandria University, namely Naval Architecture 1, Naval Architecture 2, and two courses selected based on pre-qualification of the applicant.

The peers raise questions about the preparatory semester and understand that it was implemented to ensure the qualification of the students. Based on the documentation in the self-assessment report, the structure of this semester seems to be unclear for the peers. During the discussion with the programme coordinators they learn that all applicants have

to pass the exams of the mentioned courses but it is voluntary to visits the lectures during the semester. In general the peers appreciate this kind of entrance test but from their point of view it is necessary that the structure of the procedure has to be defined in a more transparent way.

The peers understand that only during the implementation phase, new student cohorts start every other year. After the programme is established the enrolment will be each year for 20 students, due to the teaching capacity. One third of the students will come from NAMT and the rest out of the civil sector. In the first cohort 5 women qualified for the programme but four of them did not begin their studies due to family reasons. The peers appreciate that the programme seems to be attractive for women as well.

In summary, the auditors find the terms of admission to be binding and transparent with exception of the described structure of the preparatory semester. They confirm that the admission requirements ensure that students have the pre-qualifications needed to achieve the intended learning outcomes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

The peers appreciate that the university announces in its comment to offer additional electives courses about sustainability and digitalisation once the implementation phase is completed and the programme is established. This will also include offers for different programming languages.

Regarding ethics aspects the university refer to the modules “Scientific English” and ”Presentation Skills” which includes aspects of scientific methods, research ethics and publication ethics. The peers appreciate that the university itself see this contents only as a first step to cover the understanding of the students about social, cultural and economic impacts of their engineering activities.

In total, the peers appreciate the readiness of the university to take up their remarks. As the university still could not implement the announced changes they confirm their recommendations.

With its comment, the university submit the draft of new admission regulations. Now it is clear that there is an admission examination which has to be passed by all students and that the participation in the preparatory semester only is voluntary. From the view of the peers with this revision the admission regulations are transparent for all applicants. But as the university could only submit a draft version of the new regulations due to the lack of

time it is necessary to submitted a version adopted by the responsible panels as well. Therefore the peers change the wording of the preliminary suggested requirement.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Self-Assessment Report
- Study plans of the degree programme
- Module descriptions
- Discussions with programme coordinators, teaching staff and students

Preliminary assessment and analysis of the peers:
The structure of the programme under review is clearly outlined on the subject specific website. The programme consists of modules, which comprise a sum of teaching and learning. The module descriptions are also published on the subject specific website. Based on the analysis of the sequence of modules and the respective module descriptions the peers concluded that the structure of the programme ensures that the learning outcomes can be reached. Based on the analysis of the curriculum and the module descriptions the peers confirmed that the objectives of the modules and their respective content help to reach both the qualification level and the overall intended learning outcomes.

The peers mentioned that students only have elective opportunities in the research project and the master thesis. They understand that the field of ship technology is already a specialization of mechanical engineering and an ongoing individual focus probably would reduce the opportunities of the graduates on the labor market. But with regard to social, economic and ecological aspects elective courses would be helpful to implement the study aims that include these topics.

Criterion 2.2 Work load and credits

Evidence:

- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the peers:
To define the student workload the university uses beside the Egyptian system based on contact hours the ECTS credit point system taking into account the time for lectures and self-studies of the student. As the programme just started, the calculation of the workload is based on the experiences of the lecturers in other courses. Regarding the objectives and the content of the single modules, the calculated workload seems to be appropriate and students confirm this impression regarding their experiences so far. The peers appreciate that the university plans to evaluate the student workload regularly.

Criterion 2.3 Teaching methodology

Evidence:

- Self-Assessment Reports
- Study plans of the degree programmes
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the peers:
As teaching methods mostly lectures are in use complemented by project work and excursions. The peers appreciate that it is planned to implement more seminars instead of frontal teaching in future.

Due to the participation of international lecturers the teaching is organised in blocks of two weeks duration for each course followed by self-learning periods of the students, exercises and assignments. In each course an international and one national lecturer from the Alexandria University or NAMT are involved. Furthermore, online consultations with the international teacher are offered during the complete semester.

The peers discuss with the programme coordinators to get an impression on the experiences with the block lecture structure. While for the lecturers this structurer works very well the students mentioned in the course evaluation that the workload resulting from the current block module structure overstrains them. Therefore, the peers appreciate that in the next cohort the blocks for the single courses will be extended. They recommend to evaluate the block structure continuously.

Regarding practical experiences of the students the university offers excursions to shipyards and students have the opportunity to conduct the master theses in companies. The peers get the impression that the practical experiences of the students would be sufficient

but they see opportunities for improvement, for example in the module "organisation shipyard" in order to gain a better understanding of the work at shipyards or by more intensive use of the existing experimental facilities in the laboratories.

In summary, the peers consider the teaching methods and instruments to be suitable to support the students in achieving the intended learning outcomes. The research project involves students actively in the design of teaching and learning processes (student-centred teaching and learning).

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Reports
- Discussions during the audit

Preliminary assessment and analysis of the peers:
Besides the general support system of Alexandria University and NAMT the specific support for the single courses is ensured by the lecturers. For each course two lecturers are responsible, one national and one international. Additionally, teaching assistants from Alexandria University and NAMT but also international assistants supports the students. In general, the number of students in the programme ensures a very good student to lecturer ratio.

The peers appreciate that in the discussion students praise the supporting system at the university and especially the availability of the teaching staff.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:

As the university do not comment on this criterion the peers confirm their preliminary assessment. The see the criterion fulfilled in general but suggest recommendations to implement elective courses, to evaluate the block structure of the lectures permanently and to ensure that students my use more intensively the existing experimental facilities.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Self-Assessment Report
- Module descriptions

- Examination regulations

Preliminary assessment and analysis of the peers:
According to the Self-Assessment Report, the students' academic performance is evaluated mostly with written exams but in some courses also oral presentations are required.

The examination period is placed after the lecture period of the corresponding courses. Each examination period will offer one examination in the corresponding course. The exams are organised without any overlaps to other exams and only one exam per day is admissible. The exam dates are given to the students in the beginning of the corresponding course. The peers learn out of the discussion with the students that the schedule for exams even can be defined bilateral with the lecturers. They appreciate the flexibility of the teaching staff.

Signing up for the exam is binding and may be retracted up to one week prior to the exam. In case of sickness at the day of the exam, a medical certificate is required to opt out of the exam without accounting for the examination. In case of students with a physical disability, which are not able to take part in the usual examination proven by a medical certificate, alternative means of examination can be arranged.

In case students miss courses due to sickness, there will be an individual alternative timeslot for this person. Lectures are also recorded in some cases officially; mostly students record the lectures and put it at the disposal of their fellow students.

The peers confirm that the exams are module-related and offer students continuous feedback on their progress in developing competences. From their point of view the exam load and the preparation time is adequate. The requirements in the exams correspond to the intended qualification level of the programme.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:

As the university do not comment on this criterion the peers confirm their preliminary assessment. The see the criterion completely fulfilled.

4. Resources

Criterion 4.1 Staff

Evidence:

- Self Assessment Report
- Staff handbook
- Discussions with programme coordinators and teaching staff

Preliminary assessment and analysis of the peers:
Currently 12 national and international Professors and 14 scientific staff members are involved in the programme. The peers are impressed by the field specific qualification in ship technologies of the staff members, confirmed by their research activities. The peers see the lecturers very well integrated in national and international research networks.

The quantity of the staff ensures that the programme can be conducted in the intended way and there are sufficient human resources for providing assistance and advice to students and for administrative tasks of the teaching staff.

The composition, scientific orientation and qualification of the teaching staff are suitable for sustaining the programme.

Criterion 4.2 Staff development

Evidence:

- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the peers:
In the discussions with the programme coordinators and teaching staff, the peers learn that Alexandria University and NAMT offer various courses and workshops for academic and non-academic staff to enhance the didactic competences. The lecturer get support for research activities and have the opportunities for sabbaticals.

In summary, the auditors confirm that the university offers sufficient support mechanisms and opportunities for members of the teaching staff who wish developing their professional and teaching skills.

Criterion 4.3 Funds and equipment

Evidence:

- Self-Assessment Report
- Discussions during the audit (online)
- digital visit of the laboratories, lecture rooms, and the library

Preliminary assessment and analysis of the peers:
The programme is financed by NAMT and the department of Naval Architecture of Alexandria University. Students get grants as in the Egyptian educational systems master programmes regularly are offered as part time programme in order to enable students to finance their studies by professional work. The Egyptian government secured the financing of the programme depending of its long-term success.

The peers were convinced that the financial means were sufficient and secured for the timeframe of the accreditation. The equipment of the labs ensures to conduct the education in the programmes in the defined way.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:

As the university do not comment on this criterion the peers confirm their preliminary assessment. The see the criterion completely fulfilled.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- Self-Assessment Report
- Module descriptions

Preliminary assessment and analysis of the peers:
The students, as all other stakeholders, have access to the module descriptions via universities homepage.

After studying the module descriptions, the peers confirm that they include all necessary information about the persons responsible for each module, the teaching methods and work load, the awarded credit points, the intended learning outcomes, the content, the applicability, the admission and examination requirements, and the forms of assessment and details explaining how the final grade is calculated.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Reports
- Sample Diploma for each degree programme

- Sample Diploma Supplement for each degree programme

Preliminary assessment and analysis of the peers:
The peers confirm that the students of the degree programme under review are awarded a Diploma and a Diploma Supplement after graduation The Diploma Supplement contains all necessary information about the degree programme including acquired soft skills and awards (extracurricular and co-curricular activities). The Transcript of Records lists all the courses that the graduate has completed, the achieved credits, grades, and cumulative GPA. Within the documents statistical data as set forth in the ECTS User's Guide are included to allow readers to categorise the individual result/degree.

Criterion 5.3 Relevant rules

Evidence:

- Admission regulations
- Study and examination regulations
- Discussions during the audit (online)

Preliminary assessment and analysis of the peers:
The auditors confirm that the rights and duties of both UB and the students are clearly defined and binding. All rules and regulations are published on the university's website and hence available to all stakeholders. In addition, the students receive all relevant course material in the language of the degree programme at the beginning of each semester.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:

As the university do not comment on this criterion the peers confirm their preliminary assessment. The see the criterion completely fulfilled.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Discussions during the audit (online)

Preliminary assessment and analysis of the peers:
According to the self-assessment report the quality assurance systems is based on student evaluations of the courses and the evaluation of the overall satisfaction of the students. The university plans to conduct evaluations by graduates in the future as well.

At the end of the lecture period a questionnaire-based evaluation among the students takes place. Students are informed about the evaluation procedure at the beginning of the semester. The evaluation also includes a student workload survey. The results of the evaluations are handed over to the lecturers, the students and the responsible board. In case of negative results the board will discuss measurements for improvements with the responsible lecturer.

From the documents presented and from the discussions during the online visit, the peers gain a positive impression of the quality management procedures that are in place for the programme under review. The university collects meaningful data about the quality of the programme and implement a closed PDCA-Circle. The auditors gain the impression that the Departments take the students' feedback seriously and changes are made if necessary. The panel confirms that the quality management system is suitable to identify weaknesses and to improve the degree programmes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

As the university do not comment on this criterion the peers confirm their preliminary assessment. The see the criterion completely fulfilled.

D Additional Documents

No additional documents needed

E Comment of the Higher Education Institution

The university submit a detailed comment on the report.

F Summary: Peer recommendations

Taking into account the additional information and the comments given by the university the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ma Advanced Ship Technology xx	With requirements for one year	30.09.2027	--	--

Requirements

A 1. (ASIIN 1.4) Submit an adopted version of the new admission regulations.

Recommendations

E 1. (ASIIN 1.1, 1.3) It is recommended to include more aspects of sustainability and digitalization into the programme as these determine the future of ship building.

E 2. (ASIIN 1.3) It is recommended to offer more opportunities for students to improve their programming abilities in different languages.

E 3. (ASIIN 1.3, 2.1) It is recommended to implement elective courses about social, cultural and economic aspects to address the objectives of the programme.

E 4. (ASIIN 2.3) It is recommended to evaluate the block structure of the lectures permanently.

E 5. (ASIIN 2.3) It is recommended to ensure that students can make more use of the existing experimental facilities.

G Comment of the Technical Committee (21.11.2022)

The Technical Committee 01 – Mechanical Engineering/Process Engineering discusses the procedure and follows the assessment of the peers without any changes.

The Technical Committee 01 – Mechanical Engineering/Process Engineering recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ma Advanced Ship Technology xx	With requirements for one year	30.09.2027	--	--

H Decision of the Accreditation Commission (09.12.2022)

The Accreditation Commission discusses the procedure. As the university submitted an adopted version of the admission regulations after the meeting of the Technical Committee the suggested requirement is not necessary any longer.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ma Advanced Ship Technology	Without requirements	30.09.2028	--	--

Recommendations

E 1. (ASIIN 1.1, 1.3) It is recommended to include more aspects of sustainability and digitalization into the programme as these determine the future of ship building.

E 2. (ASIIN 1.3) It is recommended to offer more opportunities for students to improve their programming abilities in different languages.

E 3. (ASIIN 1.3, 2.1) It is recommended to implement elective courses about social, cultural and economic aspects to address the objectives of the programme.

E 4. (ASIIN 2.3) It is recommended to evaluate the block structure of the lectures permanently.

E 5. (ASIIN 2.3) It is recommended to ensure that students can make more use of the existing experimental facilities.

Appendix: Programme Learning Outcomes and Curricula

The following **curriculum** is presented:

Study plan for Master in Advanced Ship Technology				
1. Term (Summer, start in February) 30 ECTS	**ECTS**	**credit hours**	**Block Teaching Week**	**Assignment Week**
Ship Dynamics in Calm Water and Waves (AST 728)	6	4	1	3, 4
Structural Analysis of Ships and Offshore Structures (AST 735)	6	4	2	4, 5
Scientific English (AST 776)	6	4	6	8, 9
Fundamentals of Offshore Engineering (AST 780)	6	4	7	10, 11
Presentation Skills (AST 777)	6	4	12	13, 14
sum	30	20		
2. Term (Winter, start in September) 30 ECTS	**ECTS**	**credit hours**	**Block Teaching Week**	**Assignment Week**
Non-Linear Structural Analysis (AST 736)	6	4	1	4, 5
Ship Vibration (AST 738)	6	4	2	5, 6
Seakeeping of Ships and Model Tests on Naval Architecture (AST 726)	6	4	3	7, 8
Ship Production (AST 766)	6	4	9	11, 12
Shipyards Organization (AST 767)	6	4	10	13, 14
sum	30	20		
3. Term (Summer, start in February) 30 ECTS	**ECTS**	**credit hours**	**Block Teaching Week**	**Assignment Week**
Advanced Propulsion Systems (AST 727)	6	4	1	5, 6
Special Topics on Ship Safety (AST 788)	6	4	2	7, 8
Fatigue Strength of Ship Structures (AST 737)	6	4	3	9, 10
Research Project (AST 709)	12	8	4	11, 12, 13, 14
sum	30	20		
4. Term (Winter, start in September) 30 ECTS	**ECTS**	**credit hours**		
Master Thesis (AST 710)	30	20		
sum	30	20		
Total	**120**	**80**		