

## Experts' Report on the Accreditation of Study Programmes

at the

**Arab Academy for Science, Technology  
and Maritime Transport, Alexandria, Egypt**

**- College of Maritime Transport and Technology -**

**- Maritime Postgraduate Studies Institute -**

**1565-xx-1**



### **4<sup>th</sup> Meeting of the ZEvA Commission for International Affairs on 23 January 2017**

Study Programme	Degree	Credit Points	Programme Duration	Type of Programme	maximum annual intake
Maritime Transport	B.Sc.	144	4 years	full time	300
Marine Engineering Technology	B.Sc.	144	4 years	full time	100
Ship Operation and Marine Safety	M.Sc.	42	2 years	part time	20

Accreditation contract signed on: 1 June 2016

Documentation handed in on: 14 July 2016

Date of site visit: 26-28 September 2016

University Contact: Dr. Mohie El Din El Sayeh, Dean of the College of Maritime Transport and Technology, Arab Academy for Science, Technology and Maritime Transport, Abu Quir Campus, Alexandria, Egypt, email mohyldin\_@yahoo.com

ZEV A project officer: Anja Grube

Expert Panel:

- Roland Behrens, Professor of Mechanical Engineering, Bremerhaven University of Applied Sciences
- Klaus Harald Holocher, Professor for European Transport and Port Management, Jade Hochschule Wilhelmshaven/Oldenburg/Elsfleth (University of Applied Sciences)
- Ulrich Bösl, Master Mariner, Head of Shipping Division, Kiel Canal Authority
- Jan Manuel Kubiczek, M.Sc., doctoral student at Technical University Hamburg

**Hanover, 21 November 2016**

## Table of Contents

Table of Contents .....	I-2
I. Final Vote of the Expert Panel and Decision of the Accreditation Commission.....	I-3
1. Decision of the ZEvA Commission for International Affairs (KIA) .....	I-3
2. Final Vote of the Expert Panel .....	I-3
2.1 General Aspects .....	I-4
2.2 Bachelor of Science in Maritime Transport .....	I-4
2.3 Bachelor of Science in Marine Engineering Technology.....	I-5
2.4 Master of Science in Ship Operation and Marine Safety .....	I-5
II. Evaluation Report of the Expert Panel.....	II-1
Introduction: Purpose, Design and Context of the Accreditation Procedure .....	II-1
1. Assessment of the Study Programmes .....	II-2
1.1 Institutional Governance and Management.....	II-2
1.2 Structure and Design of the Study Programmes.....	II-5
1.3 Teaching Faculty .....	II-11
1.4 Infrastructure, Resources and Student Support.....	II-13
1.5 Teaching Methods and Student Assessment.....	II-15
1.6 Quality Assurance.....	II-17
1.7 Transparency and Public Information.....	II-18
1.8 Summary of the Experts' Central Findings and Impressions .....	II-19

## **I. Final Vote of the Expert Panel and Decision of the Accreditation Commission**

### **1. Decision of the ZEvA Commission for International Affairs (KIA)**

*The KIA follows the experts' report and recommendations and takes note of the university's response. The commission welcomes all steps the Academy has already taken to enhance the quality and transparency of its programmes.*

*The commission strongly supports the experts' recommendation to strengthen the research element of the Academy's undergraduate programmes. Otherwise, graduates may be disadvantaged when applying for Master's programmes at other universities.*

*Furthermore, the Academy should develop an official equal opportunities policy, as is explicitly required in part C of the ZEvA Manual for the External Assessment of Study Programmes.*

*The KIA finds that the criteria for the selection of undergraduate students have now been made sufficiently transparent. However, binding and published regulations for the recognition of prior learning must still be provided to fully satisfy the accreditation requirements.*

*In due consideration of the requirements of the European Standards and Guidelines for Quality Assurance in Higher Education (ESG), the accreditation of the study programmes is awarded under the following condition:*

- 1. The Academy must develop and publish a transparent framework for the recognition of higher education qualifications, periods of study and prior learning. The framework must clearly describe the procedure as well as the applied principles and criteria of recognition.*

*The condition must be fulfilled within the period of two years. Failure to comply with the conditions in due time will result in withdrawal of the accreditation.*

*The KIA decides to accredit the following Bachelor's and Master's programmes as offered by the Arab Academy for Science, Technology and Maritime Transport:*

- Maritime Transport Technology (Bachelor)*
- Marine Engineering Technology (Bachelor)*
- Ship Operation and Marine Safety (Master)*

*The accreditation of the study programmes is valid for a period of five years.*

## **2. Final Vote of the Expert Panel**

### **2.1 General Aspects**

#### 2.1.1 General Recommendations:

- The intended learning outcomes and the contents of the study programmes should more clearly reflect non-academic educational goals, as, for example, active citizenship and community service or personal development.
- Increased efforts should be taken to increase both incoming and outgoing student mobility.
- The number of visiting lecturers from abroad should be increased. The Academy should also think about recruiting qualified teaching personnel from other Arab and non-Arab countries on a permanent basis to allow for more diversity among the ranks of the faculty.
- At Bachelor's level, the intended learning outcomes should always clearly refer to the programmes in their entirety, not to the elective tracks.
- The course catalogues should be optimized as described in the experts' report.
- The experts recommend modernizing some of the labs and workshops, as e.g. the Marine Diesel Engine Workshop and the Marine Engineering Laboratory.
- Graduates should receive a supplementary document to their certificate which describes the qualification profile of the graduates and the achieved learning outcomes.
- The results of course evaluation and the measures taken in response should always be made transparent to the students.

#### 2.1.2 Proposed Conditions:

- The Academy must develop a binding and transparent regulatory framework for the selection of undergraduate students.
- The Academy must develop and publish a transparent framework for the recognition of higher education qualifications, periods of study and prior learning. In particular, the applied principles and criteria of recognition should be more clearly outlined.

## **2.2 Bachelor of Science in Maritime Transport**

#### 2.2.1 Recommendations:

- The descriptions of the intended learning outcomes should always refer to the Bachelor's programme in its entirety, not to elective profiles or specialisations.

- More importance should be attached to imparting basic skills in scientific research and writing. In particular, the Academy should consider re-introducing a final thesis in the programme.

#### 2.2.2 Recommendation to the ZEvA International Accreditation Commission:

The expert group recommends the accreditation of the Bachelor's programme "Maritime Transport" with the degree of Bachelor of Science for the duration of five years, provided the above mentioned conditions are met.

### **2.3 Bachelor of Science in Marine Engineering Technology**

#### 2.3.1 Recommendations:

- More importance should be attached to imparting basic skills in scientific research and writing. In particular, the Academy should consider re-introducing a final thesis in the programme.
- The experts recommend introducing a number of elective profiles, modelled on the principle applied in the field of Maritime Transport.

#### 2.3.2 Recommendation to the ZEvA International Accreditation Commission:

The expert group recommends the accreditation of the Bachelor's programme "Marine Engineering Technology" with the degree Bachelor of Science for the duration of five years, provided the above mentioned conditions are met.

### **2.4 Master of Science in Ship Operation and Marine Safety**

#### 2.4.1 Recommendations:

- The experts strongly recommend making the intended learning outcomes of the programme accessible to students and the general public. The list of ILOs should be well-structured and should put more emphasis on the aspect of scientific research, as well as the students' personal and professional growth.

#### 2.4.2 Recommendation to the ZEvA International Accreditation Commission:

The expert group recommends the accreditation of the Master's programme "Ship Operation and Marine Safety" with the degree Master of Science for the duration of five years, provided the above mentioned conditions are met.

## **II. Evaluation Report of the Expert Panel**

### **Introduction: Purpose, Design and Context of the Accreditation Procedure**

It is the purpose of this accreditation procedure to assess the quality of two Bachelor's programmes and one Master's programme offered by the Arab Academy for Science, Technology and Maritime Transport (AASTMT) against international standards. The two Bachelor's programmes are run by the Academy's "College of Maritime Transport and Technology", whereas the Master's programme is attached to the "Maritime Postgraduate Studies Institute".

The assessment is based on ZEvA's "Assessment Framework for the Evaluation of Study Programmes" as laid out in the agency's "Manual for Evaluation and Certification of Study Programmes". This assessment framework is in part based on the "European Standards and Guidelines for Quality Assurance in Higher Education (ESG)" (ENQA 2009), the "Framework for Qualifications for the European Higher Education Area" (2005) and the "ECTS User's Guide" (European Communities, 2009).

For the purpose of assessing the study programmes, AASTMT were asked to hand in a self-report in English, describing in detail their institution and the programmes, covering all aspects of ZEvA's assessment framework.

After receiving the self-report and assembling an expert panel for the accreditation procedure, a two-day site-visit was conducted at the Academy's main campus in Abu Qir. During the site visit, the expert panel had the opportunity to speak with the Academy's management (Deans and Vice-Deans of the College and the Institute), with programme coordinators and teaching faculty, the staff of the quality management unit as well as students and graduates of the study programmes. Also, the members of the expert panel were given a tour of the Academy's facilities, including all laboratories, workshops and simulators relevant for the study programmes.

This report is based on the experts' assessment of the Academy's self-report, some additional documents submitted during or shortly after the site visit, and the results of the on-site talks. It will serve as a basis for ZEvA's Commission for International Affairs to decide on the accreditation of the university's study programmes. In the case of a positive decision by the Commission, ZEvA will award its quality seal for a limited time period, after which the university can reapply for accreditation.

The experts would like to thank the President of the Academy, as well as all members of staff, faculty and students involved for the friendly reception and the open and constructive atmosphere during the on-site talks in Alexandria.

## **1. Assessment of the Study Programmes**

### **1.1 Institutional Governance and Management**

#### *Mission, Profile and General Organisation of the Higher Education Institution*

The Arab Academy for Science, Technology and Maritime Transport (AASTMT) was founded in 1972 with the prime mission of providing education in the field of Maritime Studies and Maritime Transport to students from Egypt and other parts of the Arab world. As an organization of the Arab League, the Academy has a special status among the higher education institutions of Egypt. The largest part of its funds comes from tuition fees, followed by contributions from the Arab League and some other maritime organizations. State funding is not received at all.

Since its foundation, the Academy has been continuously expanded and re-structured. Apart from the main campus in Abu Quir, AASTMT holds several other campuses in Egypt and one branch in Lattakia/Syria. Currently, the Academy comprises eight colleges and 13 institutes and offers Bachelor's and Master's programmes in a large variety of disciplines, ranging from Electrical and Mechanical Engineering to Architectural Engineering, Business and Management, Transport and Logistics or Computer Science. The Academy also awards doctoral degrees and engages in various research activities.

At central level, the Academy is headed by the President and Vice-Presidents as the prime decision-making authority, while each college is governed by a Dean and a number of Vice-Deans. In turn, all colleges consist of several departments, each of which is specialized on a particular subject discipline. In organizational terms, the institutes are not part of the colleges, but separate entities with their own educational missions, as e.g. Sea Training, Foreign Language Training or Maritime Safety.

On its website, the Academy summarizes its vision and mission as follows:

#### *AASTMT Vision*

*To be a world class university in Maritime Transport and Higher Education in compliance with the international standards of Education, Scientific Research, Innovation and Training while fulfilling its Social Responsibilities in order to maintain its position as the distinguished Arab Expertise House and to be the first choice of the students in the region.*

#### *AASTMT Mission*

*Contributing to the social and economic development of the Arab region by offering distinguished Change Agents who have been qualified through comprehensive educational programs, high caliber faculty, and centers of excellence in research, training and consultancies while strictly committed to the highest levels of Quality.*

In spite of its large variety of programmes, Maritime Transport and Marine Engineering still provide the core of the Academy's profile in teaching and research. In the academic year 2014/15, a total of 1.700 undergraduate students were enrolled at the College of Maritime Transport and Technology, resulting in student-teacher ratios of 16:1 for Maritime Transport and 17:1 for Marine Engineering.

The Maritime Postgraduate Studies Institute started out as a department within the College of Maritime Transport and Technology and was turned into a separate, independent unit in 2014. It offers both Master's programmes and doctoral programmes in Maritime Transport Technology and aims at becoming a pioneer research centre in this field for the Arab region and Africa.

Both the College and the Institute have developed their own strategic plans, which were submitted to the experts during the site visit. The strategic plans apply to the years 2016-2021 and also contain separate mission statements for both organizational units. These statements are also published online.

### *Experts' Appraisal*

The experts confirm that AASTMT possesses a clear-cut institutional profile. The vision and mission of the Academy as a whole and of all educational units in the field of Maritime Affairs are well-documented and published.

It is an integral part of the institutional strategy to assure and continuously enhance the quality of teaching and learning, as becomes apparent from the Academy's website and in the strategic plans for the College and the Institute. High-quality educational services are to be provided to satisfy the needs of the regional and international job markets and to make AASTMT the leading higher education institution of its kind in the Arab world. Excellence in education is to be achieved, for instance, by continuously updating curricula, by further developing methods of teaching and assessment, by attracting highly gifted students and by supporting the members of faculty in improving their performance and developing their skills. Creativity and innovative thinking are to be supported across all academic disciplines. Extended e-learning activities are also planned for the next few years to come.

The experts particularly appreciate the social dimension of the Academy's vision and mission. Not only is the work of AASTMT meant to contribute to the development of the Arab world as a whole, but the students are also encouraged to engage in various cultural and charitable activities organized by the Academy to serve the community outside its walls. Also, according to the self-report of the College of Maritime Transport, "the programmes comprise other social aims, which help students develop their personalities and acquire socio-political awareness" (cf. p. 42). The experts recommend integrating these aspects more recognisably into the contents and intended learning outcomes of the study programmes, for at present they appear to be linked to extracurricular activities rather than being part of the programmes themselves.

### *Student Mobility and Internationalisation*

Even though it is still an institution with a primarily regional outreach, AASTMT strives to sharpen its international profile at all levels. A continuous increase in internationalisation is at the top of the Academy's agenda and an integral part of its vision of quality in teaching and research.



AASTMT is part of an extensive network of higher education institutions and other organizations in the field of Maritime Affairs. The Academy has closed some agreements concerning student exchange and joint research activities with universities inside and outside the Arab world, as e.g. Shanghai Maritime University and Dalian Maritime University in China or with the Netherland Maritime Institute of Technology in Malaysia. In the European realm, the World Maritime University in Malmö/Sweden is a particularly important partner to AASTMT in terms of staff development: for instance, WMU regularly enrolls faculty members of AASTMT in its Master's programmes and also offers places for doctoral candidates from Egypt. Also, there is regular exchange of faculty between the two institutions for teaching and research purposes. Apart from that, however, visiting lecturers from abroad do not seem to be present on a regular basis.

There are a relatively large number of international students at the College of Maritime Transport and Technology, particularly from other African countries as e.g. Nigeria. These students usually absolve the entire programme at the Academy and often receive full scholarships from sponsors in their home countries, which are in high demand of the skills imparted at AASTMT. In contrast, international students enrolling for only a limited period of time (one academic year or less) still seem to be an exception at the college. Vice versa, there seems to be hardly any outgoing mobility outside the exchange programmes and summer schools that have already been set up together with partners abroad.

As the experts learned during the site visit, AASTMT has not yet developed a written framework concerning the recognition of qualifications acquired at other higher education institutions. There is no written document available which stipulates the applied principles and the criteria of recognition. The Education and Study Regulations of the Academy allow for a transfer of "equivalent" courses, but do not offer a closer definition of what is regarded as equivalent.

### *Experts' Appraisal*

By and large, the experts find that the Academy has already come a long way in its journey from regionalism to internationalism, without diluting or compromising its identity as an Arab organization.

During the on-site talks, the students expressed the wish for more contact to students from non-Arab countries and generally argued in favour of a stronger orientation towards other regions of the world, especially the EU. In accordance with this, the experts recommend further increasing student mobility rates (with full recognition of credits earned abroad). In this context, the experts consider it necessary to develop and publish a transparent framework for the recognition of higher education qualifications, periods of study and prior learning. As a general rule, recognition should be fundamentally based on achieved learning outcomes, rather than teaching contents.

Students who wish to study abroad for some time should receive as much support as possible from the Academy's side. Designing flexible, mobility-friendly curricula is also part of this. In the Bachelor's programmes, for instance, mobility windows could be created during the

fourth year, where a large part of the courses are elective.

As part of the internationalization process, the number of visiting lecturers from abroad should be increased. The Academy should also give some thought to recruiting qualified teaching personnel from other Arab and non-Arab countries on a permanent basis to allow for more diversity among the ranks of the faculty (cf. Chapter 1.3).

### *Equal Opportunities*

The general disciplinary rules of the college also serve to prevent any acts of discrimination or intolerance. Special disciplinary officers are there to ensure the proper enactment of these rules. Apart from that, the Academy has no equal opportunities policy or similar guidelines known to the experts.

At the College of Maritime Transport and Technology, disabled students cannot be enrolled in the undergraduate programmes, as the training on board requires a minimum amount of physical fitness. In other colleges of the Academy, admission of students with disabilities is possible.

## **1.2 Structure and Design of the Study Programmes**

### **1.2.1 Bachelor's Programmes: General Aspects**

The two programmes in Marine Engineering Technology and Maritime Transport offered by the College of Maritime Transport and Technology both lead up to a B.Sc. degree. Concurrently, they qualify students to work as deck officers or marine engineer officers on board shipping vessels. Hence, compliance with the standards of the International Maritime Organization (IMO), particularly the STCW convention, is of particular significance for these programmes.

Both programmes can be completed within four years (8 semesters), including 1-2 semesters of practical training/service on board. In terms of content, there is a strong overlap between the two programmes, especially during the first two years: for instance, there are shared courses on Physics, Mathematics, Physical Education and Leadership. After completion of this "basic" study phase, practical sea training usually starts in the fifth semester. During the final study phase (last 2-3 semesters), students go back to theoretical studies, but may also choose from a number of elective courses (cf. programme-related chapters below). A final thesis used to be part of both programmes, but is not required any more. Most of the courses are taught in English language.

AASTMT applies the American credit hour system. Upon completion, each educational unit (excluding sea training) is credited with between 0.5 and 3 credits. One American credit hour is roughly equivalent to 2 ECTS credits (i.e. an average workload of about 60 hours). As a general rule, one credit hour comprises theoretical input (usually by means of a lecture) and/or practical exercises or lab work. In some units, there is time reserved for independent self-studying, too, but this seems to be an exception rather than the rule.

All in all, both programmes take 144 credit hours (or ca. 288 ECTS) to complete. Each semester, there is a maximum educational load of 19 credit hours.

### *Entry Requirements, Student Admission and Selection*

Usually, the undergraduate students enter the college directly after receiving their school leaving certificate. Over the last five years, student intake has always been significantly higher in the Maritime Transport programme than in the Engineering programme. Currently, a total of about 1.000 students are enrolled in the Maritime Transport programme, and a little less than 400 in Marine Engineering Technology. In both areas, the number of female students is minimal, while a significant percentage of students (about 20% or more, depending on the year) are from outside Egypt.

In order to be admitted, applicants must hold a General Certificate of Secondary Education (scientific track) with a minimum overall score. In addition, students must pass an English language test and a physical fitness test. Due to the special nature of the programmes, physically disabled students cannot apply. All conditions for admission, as well as the admission procedure are described on the Academy's website.

The statistics provided by the College show that the number of applicants always greatly exceeds the number of newly enrolled students. However, the exact design of the selection procedure did not become quite clear to the experts. During the site visit, the experts learned that the final decision is taken based on personal interviews, but to the experts' knowledge, there is no official regulation to create transparency regarding the exact selection criteria, the ranking system, the decision-takers etc.

### *Intended Learning Outcomes and Course Descriptions*

The concept of formulating intended learning outcomes for study programmes and course units was only recently introduced at the Academy. There is a process description included in the documentation which defines and illustrates the applied principles of developing, evaluating and improving goals, objectives and learning outcomes.

All Intended Learning Outcomes at the level of the course units are subdivided into four main categories (Knowledge and Understanding, Intellectual Skills, Practical and Professional Skills, General and Transferable Skills), which appear in each course description.

The objectives and Intended Learning Outcomes of the programmes themselves are published on the Academy website and are also given in the self-report. For each electable major, a separate list of desired outcomes is provided, without applying the above mentioned categories.

Apart from outlines of the objectives and intended learning outcomes, the course descriptions provide details concerning the theoretical and practical course contents, the educational level of the unit (Bachelor/Master/Diploma/pre-Ph.D. level), the number of contact hours, the applied methods of teaching, learning and assessment, as well as references to basic and recommended literature.

### *Experts' Appraisal*

The experts assert that in both programmes, great care has been taken to completely fulfil the STCW standards. Of course, this high degree of compliance can only be achieved at the cost of a somewhat limited flexibility as regards the contents and the general design of the programmes, but the experts nevertheless approve of the general approach taken by the College.

The experts regret that there is no final thesis in either of the two undergraduate programmes. For obvious reasons, both programmes take a strong focus on practical and professional issues, yet students could be more thoroughly introduced to different theoretical and methodical approaches of their field of study. The experts find that the students should be more strongly encouraged and have more opportunity to work on their own small projects, conduct literature research in the library and learn the general basics of scientific work. Re-introducing a final thesis or a group project to the programmes could help to achieve this aim.

By European standards, the study programmes involve a relatively high workload for students. This goes for the overall workload of more than 280 ECTS (the European Framework of Qualifications stipulates 240 ECTS as typical for a four-year Bachelor's programme), as well as for the course load calculated for each semester, which amounts to a maximum of about 38 ECTS. However, as all undergraduate students are fully catered for at the Academy and generally do not have to take on any side jobs to earn their living they gain more time to dedicate to their studies. The talks with the students in Alexandria also confirmed the overall feasibility of the programmes. Therefore, the experts still find the educational load demanding, but do not regard it as a real or potential quality flaw.

As far as the process of student selection is concerned, the experts see the necessity for increased transparency: even though the admission criteria are all published, the experts find that the selection process and the selection criteria for undergraduates are not yet regulated in sufficient detail. In order to ensure a fair and objective selection process, clear and binding guidelines must be developed and published (cf. Chapter 1.7).

Furthermore, the experts conclude that the course descriptions should be further optimized in a number of ways. While the course contents are always described precisely and in great detail, the categorization of the intended learning outcomes does not always appear logical: for example, the exact difference between "intellectual skills", "professional skills" and "general and transferable skills" does not become immediately clear. Often, the categories seem to overlap very strongly in the course descriptions. The programme coordinators should therefore reconsider whether they are useful in this form.

The number of credit hours awarded for each unit is given in the descriptions. In order to increase transparency and facilitate recognition procedures, the equivalent number of ECTS credits should be included in the descriptions, too. Also, the number of working hours calculated for theoretical input/lectures, exercises, lab work and self-study time should be indicated for each unit. The reference literature given in the descriptions should not only comprise lecture notes or unpublished scripts, but also foreign publications (journal articles or monographs including complete bibliographic data) that provide a broader view on the subject.

For the classes in General English no credits seem to be awarded at all, although they are compulsory and involve a considerable weekly workload. Furthermore, the charts illustrating the structure of the programme also include units on Leadership, which are, however, not to be found in the course descriptions. The College is kindly asked to comment on these aspects for clarification.

### 1.2.2 B.Sc. in Maritime Transport

#### *Intended Learning Outcomes*

At first sight, the illustrations and descriptions of the programme in Maritime Transport are, to some extent, misleading. In the last two semesters students may specialise on one of four elective tracks or “streams”, as they are called in the self-report. For each of these tracks, an extensive set of learning outcomes has been defined, whereas learning outcomes relating to the Bachelor’s programme in its entirety are not given anywhere – even though the largest part of the curriculum is identical for all elective streams. Readers may therefore get the impression that they are looking at four separate study programmes, rather than one programme comprising several electives.

Presently, the intended learning outcomes described in the self-report and on the College website are quite detailed, but largely address practical and professional aspects. Key competencies, as e.g. the ability to work in teams, or scientific research are only very rarely mentioned.

#### *Programme Contents and Specialisations*

The basic structure of the programme has already been outlined above. During the first two years, students take mostly theory-based classes in basic nautical studies, navigation, physics and mathematics, as well as English and physical education, meteorology and maritime law. All courses are compulsory and strongly build on one another.

The third year is dedicated to practical sea training. Usually the first half of the year is spent on board the Academy’s own training vessel and the second half on another vessel run by a co-operating shipping company.

Provided the practical phase is successfully completed, the students may specialise on Maritime Technology, Maritime Safety and Environmental Protection, Offshore Operations Technology or Shipping and Port Operations. In addition, there are further obligatory classes on research methodology and statistics, navigation and other relevant topics. In addition to their Bachelor’s degree students may also receive the 2<sup>nd</sup> Mate certificate of competency, provided they pass a final examination.

### *Experts' Appraisal*

In order to avoid misunderstandings, the experts recommend developing a set of intended learning outcomes for the complete Bachelor's programme. The special learning outcomes for the four elective areas could be integrated into this general set of ILOs, without going into too much detail.

In this context, programme coordinators should pay particular attention to including scientific research skills and key competencies into the programme-related learning outcomes.

The experts confirm that the study programme complies with the general academic standards in the field of Maritime Transport. The awarding of the Bachelor's degree seems fully justified to the experts, although, as mentioned above, scientific research should gain a higher significance throughout the entire course of studies.

#### 1.2.3 B.Sc. in Marine Engineering Technology

##### *Intended Learning Outcomes*

The remarks contained in Chapter 1.2.2 concerning the description of objectives and intended learning outcomes apply equally to the programme in Marine Engineering.

##### *Course Contents and Specialisations*

During the first two years, the programme in Marine Engineering imparts fundamental knowledge in engineering, as well as related knowledge in mathematics, physics and chemistry. From the third semester onwards, students specialise either on mechanical or electrical engineering. Other than the students of Maritime Transport, they receive only one instead of two semesters of practical training at sea. However, practical metal working skills are also to a large extent imparted in the context of the theory-based units, as the course descriptions show. During the last three semesters, students take more highly specialised engineering classes in their chosen field.

##### *Experts' Appraisal*

Most of what has been said above regarding the programme in Maritime Transport applies to Marine Engineering, too.

The experts repeat their recommendation to formulate learning outcomes that refer to the entire programme and also include more scientific elements, as well as a set of generic competencies.

As regards content, the experts especially appreciate the project in the final semester, even though they see good reason to make a final thesis a requirement, too. The experts also recommend introducing a number of elective profiles, modelled on the principle applied in the field of Maritime Transport. Such electives could provide a good basis for students to build on, either in their future careers or in more highly specialised Master's programmes.

#### 1.2.4 M.Sc. in Ship Operation and Maritime Safety

##### *General Remarks*

The Master's programme in Ship Operation and Maritime Safety is one of five Master's programmes currently offered by the Maritime Postgraduate Studies Institute (MPI). In terms of organization and target groups, it is very different from the undergraduate programmes described above: it addresses qualified professionals working in the field of maritime transport who are seeking alternative career opportunities and hence wish to obtain an additional qualification. In particular, the programme is of interest for maritime officers who are looking for positions ashore, for example in maritime administration, shipping agencies, seaports etc.

According to the MPI's self-report, 26 students are currently enrolled in the programme. As a general rule, they attend lectures on 2-3 afternoons per week, while still remaining in their jobs on a part-time basis. The average age of students lies at about 30-35 years.

As a prerequisite for admission, applicants must hold a Bachelor's degree or an equivalent qualification. The majority of students have actually received their first degree from AASTMT. If they have graduated from other institutions, they might have to take some additional, extra-curricular classes.

To the experts' knowledge, an additional selection procedure is not applied at Master's level.

Most teaching materials are provided in English, and lectures are frequently held in English, too. It would therefore be possible to study the entire programme in English instead of Arabic.

##### *Intended Learning Outcomes*

In the self-report of MPI, the overall aim of the study programme is described as follows:

*The aim of the program is to provide students with sufficient knowledge and experiences in the field of shipping management and safety implementation at sea. Students successfully completing this program will be able to carry out different course-co-ordination tasks in the shipping companies and seaports. [...]*

*This course aims to provide students with advanced knowledge and experiences in the following fields:*

- *Management responsibilities of ship-owners, captains, and seafarers.*
- *Security concept and security management.*
- *Concept of shipping management and management structure of shipping company and seaports.*
- *Structure of international safety management and port state control procedures.*
- *Types of ship surveying and marine insurance applications.*

According to the self-report, graduates might fill positions as “*quality assurance officer, safety officer and marine supervisor in shipping companies and seaports*”.

Furthermore, the self-report contains a list of 70 intended learning outcomes for the programmes, most of which refer to very specific technical or professional aspects.

### *Structure and Contents*

The programme comprises a total of 42 American Credit Hours, spread over a minimum period of four semesters. 12 Credit Hours are awarded for the final Master’s thesis, which is to be generated during the final semester.

For each educational unit, 3 Credit Hours (or 6 ECTS) are awarded. The core courses cover a wide range of (non-technical) topics, as e.g. Human Resource Management, Maritime Law, Marine Insurance or Quality and Safety Management Systems. Also, there are a few supplementary units on more specific topics like Marine Pollution or Accident Investigation. In addition, a module on Research Methodology serves to prepare students for the final thesis.

### *Experts’ Appraisal*

It is unclear whether the aims, objectives and learning outcomes of the Master’s programme are published somewhere outside the self-report. On the website of the MPI, they are not to be found. Hence, the experts strongly recommend making them accessible to the students and the interested public, in case this has not already been done. Furthermore, the experts recommend giving a bit more structure to the extensive list of learning outcomes. The ILO’s should also put more emphasis on the aspect of research (which, without doubt, is a central part of the programme profile) and the students’ personal and professional growth.

The experts conclude that with a view to the intended learning outcomes, the contents of the programme are plausible. As to be expected at Master’s level, scientific research is of relatively high significance, even if this does not become apparent from the descriptions of the programme’s aims, objectives and outcomes. In order to ensure that the Master’s students are familiarized with a sufficient variety of approaches, external lecturers should be invited whenever possible.

The wide range of topics covered in the programme also makes sense, considering that students are to be prepared for a broad variety of administrative and managerial tasks and functions. The experts especially appreciate the approach of executing the programme in English to a large extent, for the graduates are most likely to find positions in a strongly international environment.

## **1.3 Teaching Faculty**

On principle, there are two different ways of recruiting teaching staff at AASTMT: external applicants for the so-called “technological cadre” must hold a Master’s or a Chief Marine Engineer Certificate and a Bachelor’s degree. Teaching experience is not a condition of ap-



pointment, but all applicants must prove that they have participated in teacher training classes. Internal promotion from Fourth lecturer to Senior lecturer is possible by way of conducting research, publishing in scientific journals and/or obtaining a Master's and/or Ph.D. degree.

Other than the members of the technological cadre, the members of the "academic cadre" are usually not recruited from outside the Academy, but from among the institution's own Bachelor's graduates, who usually start their academic careers at AASTMT by filling positions as assistant lecturers. The selection of applicants is fundamentally based on the criterion of academic excellence. Following their appointment, the members of the academic cadre are continuously promoted in further pursuing their careers. This may also be done by spending longer periods abroad to obtain further qualifications at other universities.

Apart from that, lecturers sometimes spend shorter periods of time (about 1-2 weeks) at universities in other Arab or non-Arab countries for teaching and/or research purposes or, more frequently, at co-operating industrial companies. Guest lecturers from abroad are invited at least occasionally.

Regular didactic training is compulsory for all members of the teaching faculty. Sabbaticals for research purposes can be applied for every seven years. Beyond that, lecturers can spend a few weeks on shipping vessels or in industrial companies for the purpose of further training.

In the two Bachelor's programmes, relatively few teachers are holders of a Ph.D. At Master's level, the percentage of Ph.D. holders is significantly higher. In all programmes, there are a number of external lecturers, too, some of who also teach core disciplines.

### *Experts' Appraisal*

By and large, the experts come to the conclusion that there is a sufficient number of qualified teachers at hand in all three study programmes. By means of the Academy's internal promotion system, the majority of lecturers are tied to the institution on a long-term basis, resulting in a relatively low fluctuation rate.

However, the experts also see a downside to this system of "self-recruitment". If there is no possibility of recruiting established academics from other universities, the result may be a lack of diversity in scientific approaches and methods that has a negative impact on both teaching and research. This tendency may be further enforced by the relatively low level of staff mobility and exchange (both incoming and outgoing, cf. Chapter 1.1) – even though it must be stressed that many members of faculty possess extensive international experience from longer stays abroad, e.g. as doctoral students.

All in all, this seems in line with the experts' general observation that the study programmes (especially the Bachelor's programmes) take a strongly practice-oriented approach, while the theoretical/scientific aspects still appear underrepresented (cf. Chapter 1.2). Hence, the experts repeat their recommendation to recruit lecturers from more diverse academic backgrounds, both on a temporary and permanent basis, to strengthen the theoretical foundation of the programmes and to open up for a larger variety of scientific approaches and ideas.

Also, if possible, fundamental theory-based classes should be taught by experts with a solid theoretical background rather than by nautical practitioners.

Otherwise, the experts gained a very positive impression of the teaching faculty during the site visit: the lecturers possess excellent foreign language skills and long-term teaching experience and are determined to support their students as best as they can throughout the educational process. The members of faculty also keep in touch with the latest developments in the realm of teaching methods by means of regular internal seminars, which the experts strongly appreciate.

## **1.4 Infrastructure, Resources and Student Support**

### *General Infrastructure and Learning Environment*

Both the College of Maritime Transport and Technology and the Postgraduate Studies Institute are situated at the Academy's main campus in Abu Qir. All technical infrastructure and equipment required for educational purposes are provided directly on campus.

Among the facilities provided are, for example, a number of simulators that serve to introduce students to the conditions on board different types of ships and to the concrete tasks and routines to be fulfilled there (as e.g. navigation and manoeuvring in various weather conditions, maintenance and repair of engines, handling of liquid cargo etc.). Furthermore, there are simulating devices for the handling of large cranes, for firefighting on board and for the training of other emergency situations that may occur on board or offshore (Modular Egress Training Simulator, medical lab etc.).

The Academy also provides large workshops and laboratories for the engineering students (as e.g. metals workshops, steam laboratory, electrical labs, hydraulic systems lab etc.).

As mentioned above, the Academy has its own ship for the practical training of cadets (AIDA IV). The Bachelor's students of Maritime Transport and Marine Engineering usually spend six months on board this vessel as part of their course (cf. Chapter 1.2).

In addition to the central library on campus, there is also a small library with a focus on Maritime Transport and Technology at the College.

Apart from the educational equipment and infrastructure, the Abu Qir campus offers various other facilities to cater to the students' needs. As a general rule, all undergraduate students are expected to move into one of the on-site dormitories at least for the first two years of their studies. A students' restaurant, sporting facilities and a medical care unit are also to be found directly on campus.

### *Student Life and Student Support Structures*

Undergraduate students receive intense support from the College in all academic matters. For all first years, student life begins with a general orientation week without any classes. All important information for undergraduate students is also given in the official students' guide, which was included in the documentation submitted to the experts.

Each student is assigned a personal academic advisor from among the faculty who provides personal guidance and advice throughout the entire course of studies. On principle, all lecturers may be consulted during their office hours.

The Academy has also opened up a career centre as a link between the Academy's students and graduates and the employment market. Additionally, an annual job fair is organized by the alumni organization of AASTMT.

For international students, special events are organized in order to help them integrate and feel welcome, as, for example, sightseeing trips.

There are student organizations both at central level (Student Council) and at the level of the College (Students' Union).

Lectures for postgraduate students are usually held in the afternoons, about 2-3 days per week, although the Institute takes all efforts to allow for a flexible adaptation of workload to the students' professional duties.

### *Experts' Appraisal*

By and large, the experts were impressed by the large variety of modern technology provided on campus, which allows for excellent training conditions in all electable majors or "streams". This applies especially to the extensive, state-of-the art simulator complexes. It is obvious that in the more recent past, the Academy has invested a lot into new technologies.

As far as the more "traditional" technology is concerned, however, the experts recommend modernizing at least some of the labs and workshops, as e.g. the Marine Diesel Engine Workshop and the Marine Engineering Laboratory. Otherwise, proper experimental work in these labs will not be possible to a satisfactory extent.

For practical reasons, the experts did not get to see the training vessel AIDA IV, but would nevertheless like to pass on the comment made by the teaching staff during the site visit that a new training ship would contribute significantly to the educational quality at undergraduate level.

Even though there is only a limited number of reference books available at the College library, the students have free access to a large variety of online databases and e-journals (including EBSCO, Elsevier and Emerald) and generally work with digital sources wherever possible. The central library may, of course, be used as well. Hence, the experts find that there is no identifiable lack of reference and study material whatsoever.

Furthermore, the experts appreciate the extracurricular activities offered in the realm of sports, culture, social services or the arts, even though the students interviewed during the site visit mentioned that they would like to see the range of activities further extended.

The student advisory and support services provided are of a very high standard, both in the academic and the non-academic realm. Every student's academic career is closely monitored by personal academic advisors who take measures in response in case of occurring problems. The facilities available at the main Abu Qir campus fulfil all daily needs of the stu-

dents. The experts would especially like to commend the Academy on providing scholarships for particularly gifted students.

The undergraduate students of the College of Maritime Transport and Technology are subject to strict disciplinary rules and prescribed daily routines. Non-adherence to disciplinary rules and regulations may, in the worst case, result in the students having to repeat part of the course or being expelled from college.

With a view to the future careers of the students as crew members on shipping vessels, the experts understand the necessity of imparting a strong sense of discipline. Also, the on-site interviews with both students and lecturers revealed that students are actively encouraged to develop a critical mind and independent judgment, and that they can voice their opinions, appeals or complaints either individually or via the students' unions. However, if the Academy aims at enrolling more international students in the Bachelor's programmes, as e.g. students from the EU, the strict organizational framework might be a hindrance to that.

All of the aspects mentioned above do not apply to the Master's students in the same way, as they are usually professionals who study at the Academy on a part-time basis. However, they too have the option of raising appeals and complaints to the responsible authorities at the MPI, and are expected to adhere to the Code of Conduct for postgraduate students.

Even though the experts find that the overall educational load in the Master's programme is relatively high, the on-site talks have shown that sufficient flexibility seems to be warranted. As a general rule, all postgraduate students may apply for a temporary interruption of their studies or withdraw from an ongoing course if need be.

## **1.5 Teaching Methods and Student Assessment**

A large variety of teaching methods is applied both at Bachelor's and Master's level. In all programmes, most teaching units combine lectures with practical simulator training or lab work, tutorials, exercises or case studies. As a general rule, active participation in class is encouraged and is often relevant to the overall grade students receive for a unit. Group projects and oral presentations in class may also be required. In the Bachelor's programmes, the practical training on board shipping vessels is, of course, another central didactic element.

At undergraduate level, AASTMT applies the concept of continuous assessment, i.e. there are several examination events in each unit, all of which have an impact on the final mark. There are one or two intermediate exams (after 7 weeks and after 12 weeks) and one final exam per unit, as well as a number of assignments throughout the term, which can take on different forms (case studies, quizzes, presentations etc.). The learning outcomes of the practical training on board are assessed by means of oral and practical examination, as well as written reports.

In the theoretical units, the teachers may choose the form of assessment applied in the 12-week exam. For all other examinations, the type of assessment is usually decided upon at central level.

The Bachelor's students are expected to accumulate a Grade Point Average of at least 2.0 each semester. In case the GPA is lower than that, some classes must be repeated.

On principle, it is not possible to re-sit failed examinations during the semester. Students achieving less than 50% of the maximum number of marks for a course unit must repeat that unit the following semester.

The assessment regulations and procedures are described in detail in a separate document, which also contains information on appeals procedures and the grading scale. The regulations take mitigating circumstances (illness etc.) into account.

There are separate assessment and appeals procedures for postgraduate students, which are nevertheless based on the same principles as described above, although a slightly different scale is used for grading. The self-report of MPI contains a long excerpt of the regulatory framework. The experts assume that this framework is made available to the students by the responsible contact persons at the institute. Provided this is not already common practice, it would be advisable to make the regulations available for download from the website, too.

### *Experts' Appraisal*

Based on the information provided by the different stakeholder groups during the site visit, the experts come to the conclusion that the Academy takes a student-centred and competence-based approach to teaching and learning. Students are supported not only in increasing their knowledge and (at least at Master's level) their research and writing skills, but also their communicative skills, their ability to work in teams, leadership skills and other key competencies. Students are continuously encouraged to take on an active role in the learning process. As far as the experts can see, the chosen forms of assessment are sufficiently diverse and well aligned with the intended learning outcomes of the courses.

The course descriptions provide clear information regarding the number of assessment events and their impact on the final mark.

The experts consider it positive that the academic progress of all students is very closely supervised by the Academic Advisors. In case of repeated failure or low marks, the Advisors may decide, for instance, to reduce a Bachelor student's annual workload by registering him or her for a lesser number of course units.

## **1.6 Quality Assurance**

### *General Aspects*

AASTMT has devoted considerable resources to the cause of quality assurance and quality improvement. At the College of Maritime Transport and Technology, a central quality assurance unit has been set up, and there are several quality coordinators at department level. As described above, both the College and the Maritime Postgraduate Studies Institute have developed and published extensive strategic plans including quality goals as well as qualitative and quantitative indicators for their achievement.

The Academy has undergone several external certification procedures in the realm of quality management, as e.g. ISO 9001. Also, it has been subject to external quality assurance reviews exerted by the responsible ministerial authorities and the recently founded national quality assurance agency of Egypt NAQAAE. However, there have not yet been any programme-related audits in the field of Maritime Transport and Technology.

### *Internal Monitoring and Review of Programmes*

As indicated above, the students' progression and success are closely monitored by the College and the Institute. The statistical data provided by the College indicates that in both Bachelor's programmes, the overwhelming majority of the students finish their course in nominal time. On average, around 10% of students have taken longer than that to complete the course during the past three years. Dropout rates have varied between 7% and 20% within the same time frame. For the Master's programme, no such data has been made available.

The Academy also traces the graduates' career paths by means of graduate surveys and the alumni club. The alumni also provide valuable feedback regarding the programmes.

Students' satisfaction with their programmes is monitored by means of regular course evaluation. Both Bachelor's and Master's students receive questionnaires which include questions both regarding the course contents and the performance of the lecturer. If evaluation results are negative, corrective action is taken, for example by issuing a "warning letter" to the respective lecturer. Even though the students usually become aware of these actions, they are usually not informed about the evaluation results by the QA unit or by the lecturers themselves.

Outside written course evaluation, students participate in internal quality assurance by taking part in general meetings concerning questions of quality, and via the students' council.

External stakeholders are involved in the quality assurance of the programmes in various ways. Representatives of the maritime industry (ports, shipping companies, shipyards etc.) or ministries act as advisors to the college board, short-term teachers or external supervisors and examiners in conjunction with the members of faculty. Through this continuous and close exchange, the academy keeps track of the changing needs of potential employers and makes sure that its programmes are fit for purpose.

The lecturers may, of course, propose changes to the programme contents, too. Every two years, such proposals are discussed and decided upon by a committee.

### *Experts' Appraisal*

The experts strongly appreciate the importance that the Academy attributes to quality assurance and quality improvement at all levels and in all main fields of activity. All standard instruments of internal quality assurance are applied, and the statistical data provided regarding student success and progression give no cause for concern. The direct participation of important internal and external stakeholder groups in the quality assurance system is especially convincing.

For further improvement, the experts recommend closing feedback loops by communicating the evaluation results (if necessary, in aggregated form) as well as the measures taken in response to the students. The same principle of transparency should apply to all modifications made to the study programmes for the sake of quality improvement.

Furthermore, it would be a good idea to monitor the students' level of satisfaction with the general learning environment and support services on a regular basis. In all survey questionnaires, there should be an option for formulating free comments, too.

## **1.7 Transparency and Public Information**

The AASTMT website contains extensive descriptions of the institution's profile in teaching and research, the organizational structure and the history of the Academy. The website is offered both in Arabic and in English. The same goes for the separate websites of the College and the Institute, where more detailed information on the study programmes is to be found, including the intended learning outcomes and the conditions of admission. The course descriptions are handed out to the students by the lecturers at the beginning of the semester and have meanwhile been published online, too, based on the experts' recommendation.

The official Students' Guide of the College of Maritime Transport and Technology provides detailed information regarding the most important study and assessment regulations (including disciplinary rules/code of conduct), the facilities on campus and the curricular structure. According to the self-report, the students can find the official exam regulations in the internal section of the website.

For the Master's students, there is no comparable written information material known to the experts. Nevertheless, students can always contact their personal academic advisor/coordinator for support.

### *Experts' Appraisal*

The experts have gained a positive overall impression of the Academy's public information policy. All enrolled students have sufficient access to the central documents regulating the study process, while prospective students and the general public receive detailed online in-

formation about the institution's activities, the programmes and degrees awarded, employment prospects for graduates and many other aspects. The fact that there are numerous separate websites for individual organizational units of the Academy may cause confusion among readers who are unfamiliar with the intricate internal structure of the institution. It may therefore be advisable to reduce the complexity of the online appearance.

In spite of this positive evaluation, the experts see the necessity to create more transparency regarding the process of student selection at undergraduate level, as already outlined above (cf. Chapter 1.2). Furthermore, graduates should receive a supplementary document to their certificate which describes the qualification profile of the graduates and the achieved learning outcomes.

### **1.8 Summary of the Experts' Central Findings and Impressions**

The expert panel has gained a very positive overall impression of the educational infrastructure AASTMT provides for students in the field of Maritime Studies. In particular, students benefit from the excellent, state-of-the-art technology on campus that shows only little need for optimization and from the intense guidance provided by the teaching faculty in all academic and non-academic matters.

The Academy has developed an elaborate internal quality assurance system, both at central and decentral level. All internal and external stakeholders, including the students, are actively involved in the continuous improvement and development of the study programmes.

It has become apparent in the course of the review procedure that the Academy is presently taking a high effort to enhance its international profile and outlook ("from regionalism to internationalism"). The decision to have its programmes assessed against a set of European standards is part of this process. The experts still see potential for improvement regarding the implementation of some central aspects of the Bologna reform (formulation of intended learning outcomes, facilitation of mobility and recognition, transparency), yet by and large, they see a high degree of compliance with the European Standards and Guidelines for internal quality assurance in higher education.