

JOINT OPINION BY THE EXPERTS GROUP ON THE ASSESSMENT OF A  
STUDY PROGRAMME

STUDY PROGRAMME

Operation of Ship Electrical and Automation Equipment

Maritime Institute of Postgraduate Education Named after  
Rear Admiral Fyedor Fyedorovich Ushakov (AUMI)

Experts:

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\_\_\_\_\_ (Date)

# 1. Summary

This report provides the results of the assessment of the bachelor's study programme in Navigation, implemented at Maritime Institute of Postgraduate Education named after Rear Admiral Fyedor Fyedorovich Ushakov (AUMI).

The evaluation of the quality of education in the field of navigation was carried out at the request of the AUMI. The visit was carried out in accordance with the existing procedure of programme evaluation of the Latvian Quality Agency for Higher Education (AIKA). The study process of the assessed navigation programme in the academic year 2020/2021 took place under conditions of the covid pandemic. The AUMI has introduced a number of measures to offset the negative effects of the pandemic on the quality of education. The expert team noted that they are of a temporary nature. The study programme has not been accredited before.

The visit was preceded by the familiarisation of the expert team with the self-evaluation report (SAR) submitted by the AUMI. The team also held organisational meetings to discuss the issues presented therein, matters requiring clarification with the AUMI authorities and a detailed schedule of the visiting process.

The visit started with a meeting with the management of the AUMI and reviewing of the AUMI infrastructure. Then on the following day, the visit was continued, meeting with the academic staff study programme, meeting with employers, visiting the infrastructure in Kherson seaport, meeting with the students of the study programme. Before the end of the visit, the degree of fulfilment of the criteria was assessed and recommendations were formulated.

The findings of the evaluation and the recommendations of the expert team are summarized in this report.

Economic and social grounds for establishing the study programme are based on the regional, national and international maritime industry needs and demands and, on the other hand, there are the needs of applicants for higher education (students) to award a bachelor's degree, which gives AUMI graduates the opportunity to pursue a management level position on board. Understanding of the AUMI mission and role in the region and in the maritime industry sector is clear enough. The AUMI management has an opinion and sees opportunities to ensure the availability, quality and sustainability of financial resources, using three sources: students' fees, short courses fees and crewing service inflows. The Institute has developed, implemented and maintains a quality management system in accordance with the requirements of ISO 9001: 2015.

AUMI has premises with the very good potential to improve and expand. The set of modern specialised simulators was upgraded in AUMI in February of 2021, is certified by the Maritime Administration and is widely used in the study process.

Study programmes, presented by AUMI for assessment, are developing in accordance with International Convention STCW requirements. But the programmes' content does not fully reflect the requirements of the Ukrainian National Qualifications Framework prescribing competencies of the first level of higher education (bachelor's degree) regarding bachelor's

competencies as the ability of a person to solve complex special-purpose problems, application of certain theories and methods of relevant sciences should be visible and serve the purposes of the high school.

The use of information and communication technologies in the implementation of the study programme in classes is insufficient, classrooms' computers not connected with the Intranet and the Internet, classrooms are poorly equipped with electronic demonstration devices (projectors or large LED screens).

The teaching staff is a mix of lecturers: acting and former seafarers, very experienced academic staff - professors (most of them started to cooperate with the Institute in 2019/2020 years). But most scientific publications are published in conference proceedings and on behalf of other institutions and as a sequence may be attributed to the person, but not to the AUMI. At that moment AUMI has not demonstrated available scientific or appropriate laboratory or equipment or any availability to access it. The expert team would like to recommend developing scientific work directions, creating appropriate research facilities and equipment, enhancing working groups, involving students, and attracting possibilities for additional financing. It is desirable to cultivate and develop institutional academic culture.

The assessment concludes that the programme has a potential for development although a number of challenges and shortcomings should be addressed. The recommendation of the expert group is to accredit programmes for two years - a term appropriate for the implementation of the necessary improvements and revisions.

## **2. Information about the assessment procedure (timeline, experts group, scope of evaluation)**

The site visit (organized partly remotely) to get acquainted with the premises and equipment took place on April 23rd, 2021. The site visit (organized fully remotely) - additional demonstration of the equipment and interviews with the management, academic staff, students and employment representatives took place on May 5th - May 6th, 2021. The assessment was conducted by an international team of experts:

- Prof. Viktoras Senčila, Lithuanian Maritime Academy, (team chair);
- Mr. Arnis Križus, (team secretary, representative of employers);
- Prof. Janusz Uriasz, Maritime University of Szczecin;
- Mr. Vasyl Chornopyskyi, Precarpathian National University named after Vasyl Stefanyk, (student member);
- Docent Iurii Iarmolovych, National University "Odessa Maritime Academy".

The assessment was based on the following sources of information:

- Self-assessment report (SAR) and supplementary information provided by AUMI prior to the start of the assessment procedure;
- Additional information supplied by AUMI at the request of AIC prior to the site visit;
- Information gathered during the partly remote site visit on April 23, and the remote

site visit on May 5th -6th from meetings with the top management of AUMI, the central administration and support staff, the study programme directors, teaching staff, students, and employer representatives;

- Additional information supplied by AUMI during the assessment procedure.

The assessment report is based on the analysis of the available information from the sources listed above, in-person and remote discussions of the expert team members, and consensus decisions of the expert team.

The assessment procedure of the bachelor’s study programme “Operation of Ship Power Plants” was based on ten defined criteria:

- Criterion 1. Strategy, aims and programme management;
- Criterion 2. Structure and content of the programme;
- Criterion 3. Teaching and learning materials;
- Criterion 4. Techniques and methods of educational activity;
- Criterion 5. Teaching staff;
- Criterion 6. Resources;
- Criterion 7. Research work;
- Criterion 8. Cooperation and internationalisation;
- Criterion 9. Employability of graduates;
- Criterion 10. Student services.

Each criterion was assessed according to the following evaluation scale:

- Excellent – no deficiencies in meeting the set criterion have been identified;
- Good – minor deficiencies in meeting the set criterion have been identified;
- Average – deficiencies have been identified in meeting a criterion, but they can be eliminated within a short period of time;
- Poor – significant deficiencies have been identified, and they cannot be eliminated within a short period of time.

Overview on the assessment of criteria:

Criterion 1. Strategy, aims and programme management	<b>Average</b>
Criterion 2. Structure and content of the programme	<b>Average</b>
Criterion 3. Teaching and learning materials	<b>Average</b>
Criterion 4. Techniques and methods of educational activity	<b>Average</b>
Criterion 5. Teaching staff	<b>Good</b>
Criterion 6. Resources	<b>Poor</b>

Criterion 7. Research work	<b>Poor</b>
Criterion 8. Cooperation and internationalisation	<b>Poor</b>
Criterion 9. Employability of graduates;	<b>Good</b>
Criterion 10. Student services.	<b>Good</b>

### **3. General description of the Higher Educational Institution profile**

Maritime Institute of Postgraduate Education named after Rear Admiral Fyedor Fyedorovich Ushakov or in short Admiral Ushakov Maritime Institute (AUMI) is a private higher education institution founded in 21.02.2000 with an aim to provide preservice and in-service training for seafarers working on the ships of Ukrainian and foreign shipping companies.

The geographical position of the Kherson region, the presence of a river waterway, the Black and Azov seas contribute to the development of water transport. Kherson and Skadovsk seaports and Kherson river port have connections with sea and river ports of the Black Sea countries. The city of Kherson is located on the Dnieper river, has a river and seaport, therefore according to the institute administration, AUMI educational programs offer training both specialists for the marine industry and river navigation.

Currently, Ukrainian law allows “junior specialists” to occupy positions of not higher than operational level officers on board a ship. The main idea behind the establishment of the bachelor's program, according to representatives of AUMI management, is to award a bachelor's degree, which gives graduates the opportunity to pursue a management level position on board.

The first enrollment of students for bachelor's programs was carried out in 2016. The first graduation took place in June 2019 for students who already had college-level education (level 5 according to ISCED) and corresponding qualification level “junior specialist” (according to Ukrainian law) before studies in AUMI and entered a reduced 3-year bachelor's program.

According to the information provided by the AUMI, the number of bachelors in all courses and all study programs is currently about 200 students.

In addition, the Institute continues its initial activities - organizes refreshing and professional upgrading courses for seafarers, currently implementing about 70 short-term programs, and carries out seafarers' employment (“crewing agency”) activities, which are also sources of finance for the Institute.

## 4. Strategy, aims and programme management

AUMI announced its mission, which is reflected in the Strategic Development Plan for 2017-2027, which is “training of new generation specialists for a marine industry in today's scientific and technological progress”. Strategic Development Plan is posted on the official website of the AUMI. It coincides with the educational programme goals because it assumes the final result - qualified graduate - Bachelor of Marine Electronics.

Economic and social grounds for establishing the study programme are based on the regional, national and international maritime industry needs and demands. According to the BIMCO manpower report “The global supply and demand for seafarers in 2015” Ukraine is among the top-5 countries that supply qualified personnel to the international maritime labour market. These factors also contribute to the economic growth of the Kherson region. On the other hand, there are the needs of applicants for higher education (students) to award a bachelor's degree, which gives AUMI graduates the opportunity to pursue a management level position on board. Most of the students in the institute have a certificate of rating competence or a diploma of higher education for another speciality and the major part of students (90%) receive education on correspondence formation and in parallel work in the marine industry.

Educational programme management is based on the corresponding AUMI regulatory documents:

- Internal regulation for quality assurance;
- Program of measures to ensure the quality of the educational process and the quality of higher education in the private institution "Maritime Institute of Postgraduate Education named after Rear Admiral Fyodor Ushakov";
- Regulations on the formation, approval and updating of educational programs.

The procedure for internal quality assurance is as following:

- Applicants for education, employers submit proposals to change the content of an educational program component.
- A teacher examines the proposal, makes her/his own changes, comments, suggestions and submits it to the department.
- The department discusses the proposal, attracts a guarantor of the educational program, submits a proposal to the Academic Council.
- The Scientific Council takes a decision on approval or rejection of the proposal.
- The Rector approves the changes in the educational program.

The Department of marine specialists training of the AUMI bears responsibility for the implementation of the educational program. Other structural units of the Institute, namely the Department of humanitarian preparation, Department of Basic Training are involved in the implementation of educational programs as well.

As it turns out from the SAR and the interview, that monitoring of educational programs is carried out on an annual basis to determine the achievement of the set goal and compliance of

job seekers, employers and other stakeholders needs providing surveys (questionnaire) of applicants of education (students), employers and other groups of the parties concerned.

The Institute has developed, implemented and maintains a quality management system in accordance with the requirements of ISO 9001: 2015. In November 2019, the group of Bureau Veritas Certification Ukraine conducted the first supervisory audit of the Quality Management System for compliance with the requirements of the international standard ISO 9001: 2015. The audit was successful, the Institute received a corresponding certificate.

SWOT analysis of the study programme is presented in the SAR as an annex, but does not provide a detailed analysis of the situation. The SWOT analysis is essential for improving the quality of the programme ensuring its sustainability. Table with key-performance indicators (KPI) is presented in the SAR. Set of KPIs aimed to periodically monitor daily, monthly or annual activities providing information on how the institution reaches its goals.

The admission to the AUMI is carried out by the Admission Commission, the composition of which is approved by the order of the Institute Rector, who is its chairman. The Admission Commission is valid according to the Regulation on the Admission Commission of the Institute approved by the Academic Council of the Institute in accordance with the Regulation on the Admission Commission of the Higher Education Institution, approved by the Order of the Ministry of Education and Science of Ukraine since October 15th, 2015 No. 1085, registered in the Ministry of Justice of Ukraine November 4th, 2015 to №1353 / 27798. The Regulation on the Admission Commission of the Institute is published on the Institute website.

Admission for training at the institute is carried out within the limits of licensed scope of the speciality 271 River and Sea transport (educational programs of navigation, the operation of ship power plants, the operation of ship electrical equipment and automation means) exclusively for the means of physical and/ or legal entities. Admission for training for the second (third) and subsequent courses is carried out within vacant places of licensed scope. To obtain a degree of higher education, the bachelor degree, persons who received a complete general secondary education or educational and qualification level of a junior specialist are accepted to the AUMI. To obtain a degree of higher education in another speciality, persons who have previously received the same or higher level or are receiving it at least for the period of one year and fulfilling the individual curriculum in full scope.

The expert team would like to make a general remark about academicism and the mission and vision of the Institute as a part of the higher education system. Ukrainian National Qualifications Framework prescribes competencies of the person for the seventh level of the Framework or first level of higher education (bachelor's degree) as following: “ability of a person to solve complex special-purpose problems and practical challenges in certain fields of professional activity or in the course of study, which solution involves the application of certain theories and methods of relevant sciences and is characterized by complexity and ambiguity of conditions”. It is hard to distinguish in the programme areas where theories and

methods of science (transport) are being delivered and students in their turn demonstrate a weak understanding about the importance of providing education on next levels instead of main (only) focus on STCW convention.

The expert team would also like to make a few remarks on what is commonly referred to as academic culture reflected in attitudes, values and ways of behaving that are shared by people who work or study in institutions. Academic culture is reflected in many aspects: perception of the mission of higher education, institutional dress code, knowledge of foreign languages, behavioural traditions, quality of documentation, and so on. Academic culture needs to be improved. Among other things, it is reflected in the quality of the documents and the accuracy of the data presented.

### ***Strengths***

- Economic and social grounds for establishing the study programmes are presented clearly.
- AUMI announced the mission of the AUMI, which is reflected in the Strategic Development Plan for 2017-2027 years. Understanding of the institution's mission and role in the region and in the maritime industry sector is clear enough.
- Educational program management is based on the corresponding AUMI regulatory documents. Monitoring of educational programs is carried out on an annual basis, involving applicants of education (students), employers and other groups of the parties concerned; the processes are well documented.
- The Institute has developed, implemented and maintains a quality management system in accordance with the requirements of ISO 9001: 2015.

### ***Weaknesses***

- Low involvement of internal and external stakeholders in preparation of SAR (for instance teachers/ professors were not involved).
- SWOT analysis, as a widely applied tool for strategic planning, does not provide a detailed analysis of the situation.
- The programme content does not fully reflect the requirements of the Ukrainian National Qualifications Framework prescribing competencies of the first level of higher education (bachelor's degree).
- Institutional academic culture, reflected in many aspects such as the perception of the mission of higher education, institutional dress code, knowledge of foreign languages, quality of documentation, and so on needs to be improved.
- The institute website, at the list in English, requires updating of information and revision of supporting documents.



### ***Recommendations for elimination of weaknesses and for further development***

- Recommendation to implement Ukrainian National Qualifications Framework prescriptions regarding bachelor's competencies as the ability of a person to solve complex special-purpose problems, application of certain theories and methods of relevant sciences should be visible and serve the purposes of the high school. One of the possible means for bachelors level may be, for example, preparation and public defence of graduate qualification work, in parallel to state examination.
- It is desirable to cultivate and develop institutional academic culture, understanding the importance of providing education for all levels of higher education, the focus should be not only on professional skills but also on soft skills development, encouraging staff to share appropriate attitudes and ways of behaving (for instance dress code, languages and so on).
- Recommendation to update periodically the AUMI website and keep on it only actual documents and valid certificates.
- Recommendation to perform a SWOT analysis as an element of quality assuring system regularly, seeking sustainability in improving the quality of the programme.
- Recommendation to develop a set of KPI that help AUMI to periodically monitor their daily, monthly or annual activities, providing information on how AUMI reaches its goals.
- It is recommended to build an own quality system/culture designed for academic purposes. The Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) might be a good indicator/model for AUMI.

Assessment:

Excellent	Good	Average	Poor	N.r.
		X		

## **5. Structure and content of the programme**

The volume of the Professional Bachelors Program is 240 ECTS credit points, and it consists of the following modules: General training cycle, Professional Training Cycle, Block# 1. For specialists of a transport vessel or Block #2. For specialists of special-purpose ships, Batch programs. (A batch program consists of 4-parts. There are 3 subjects in each part. A student chooses one subject among three items. Thus, the total number of subjects studied from the batch program is 4.). The general training cycle and professional training cycle each is composed of compulsory disciplines. Selective disciplines are added in separate blocks, but they apply to both the General training cycle and Professional training cycle. In total, the compulsory disciplines are worth 177 ETCS, and optional components are worth 61.5 ETCS. In accordance with the Ukrainian Law on Higher Education, the proportion of elective disciplines in the program should not be less than 25% of the total number of ECTS.

Therefore, the structure of the programme “Operation of Ship Electrical and Automation Equipment” corresponds to the normative requirements. The content of the study programme also corresponds to the Ukrainian State Standard of Higher Education regarding the major 271” River and Sea Transport” for the first level of higher education (the Bachelor degree).

Seafarers education and training should be carried out in accordance with the requirements and regulations of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended, which sets minimum qualification standards for masters, officers and watch personnel on seagoing merchant ships Following the adoption of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, IMO developed model training courses to assist in the implementation of the Convention and in achieving a more rapid transfer of information and skills The model course 7.08 aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/6 of STCW Code for the function Electrical, Electronic and Control Engineering at the Operational Level, for the function Maintenance and Repair at the Operational Level and the background knowledge to support Controlling the Operation of the Ship and Care for Persons on Board at the Operational Level. Preparation of bachelors under the curriculum “Operation of Ship Electrical and Automation Equipment” is carried out in accordance with these recommendations. The study courses: Theoretical Bases of Electrical Engineering, Technologies of Electricity Materials, Electric Machines. Electronics, Circuitry and Power Electronics, Drive Theory, Theory and Ship Arrangement and Movers, Ship Automated Drives, Ship Power Plants and Systems and Their Operation, Ship Auxiliary Plants, Cargo and Deck Gears and Their Operation, Automated Propeller Power Plants, Marine High-voltage Equipment, Control Systems for Power and General Ship Installations, Ship Automated Electric Power Systems, seagoing practice. etc. implements functions: Electrical, electronic and control engineering, maintenance and repair, controlling the operation of the ship and care persons on board at the operational level. It should be noted that the reference to the 1978 STCW Convention Code, as amended, is incorrect in the program description and in the self-assessment report.

The internships (workshop and seagoing practices) are incorporated into the curriculum of the “Operation of Ship Electrical and Automation Equipment” study programme as part of the programme. As per the curriculum, the total practice is 78 credits, of which 24 credits are educational practice, 54 credits are seagoing service.

Types of practical training are the following:

- Educational training practice in the workshops provides for the acquisition of practical skills in plumbing, turning, welding and electrical work. Practice is held at the beginning of the 3rd semester for 6 weeks. Practice Place -Workshops;
- educational sailing practice. Practice takes place for 10 weeks at the end of the 4th semester.

Practice places -shipyard, plant, or transport ships;

- seagoing service is carried out in the 6-8th semesters and is designed for 54 credits. Students take this practice directly on marine and river ships.

The overall organization of practice and control over its holding is carried out by the Vice-Rector of the Institute. The Department of Maritime Specialists Preparation provides the direct training and methodological management and implementation of the practice program.

During the practice, students prepare a report and present a completed seagoing practice training record book. In the terms of content and total duration, the internship corresponds to STCW convention requirements regarding minimum standards of competence and approved sea-going service, aimed to meet the goals of the study programme

Final qualification assessment - in accordance with Ukrainian Law on Higher Education - a qualification exam. The methodological recommendations of the qualification exam reflect in detail the requirements to be set, the range of questions, and the evaluation criteria.

Evaluating the study courses in general, it was found that competencies are covered by the courses of the study programme. The courses are explicitly oriented towards building practical skills, relating to the operation and repair of marine electrical equipment and marine automation. Many of the courses in the “professional training cycle” part of the programme seem to have a strong theoretical component judging from the course descriptions. The curriculum of the “Operation of Ship Electrical and Automation Equipment” study program and schedule of the educational process has been prepared and presented in tabular form with the distribution of hours between theoretical, practical and self-work, indicating the form of subject assessment is quite structured and clear, but still needs some clarifications. By analyzing the descriptions of study courses, conclusions can be drawn about the study course as a whole and the topics covered in the given course. Not all study course descriptions reflect the distribution of specific hours between theoretical, practical classes and laboratory work. In some descriptions of study courses, the descriptive part does not correspond to the study course programme. but given study courses contributes to reaching the aims of the study programme and the intended outcomes in general.

Special courses, such as “Basic safety training ” according to STCW convention standard A-VI/1-1, A-VI/1-2, A-VI/1-3, A-VI/1-4, “Proficiency in survival craft and rescue boats other than fast rescue boats” according to STCW convention standard A-VI/2-1, “Medical first aid” according to STCW convention standard A-VI/4-1, ”Advanced Fire Fighting” according to STCW convention standard A-VI/-3 are implemented both in classrooms and in the training Centre. Training Centre equipment, in general, meets international requirements

### ***Strengths***

- There are a necessary quantity of elective and compulsory disciplines,

- The proportion between the elective and compulsory disciplines is in accordance with the national regulations,
- The study program “Operation of Ship Electrical and Automation Equipment” development and execution are carried out in accordance with the Convention STCW Section A-III/6, to ensure unrestricted certification and career possibilities of Graduates.
- The internships (workshop and seagoing practices) are directly incorporated into the “Operation of Ship Electrical and Automation Equipment” study program as part of the program.

### ***Weaknesses***

- The structure of the study programme is not fully developed;
- Errors in the programme. (Competencies to be achieved are included in the study course descriptions of the study programme. An example: the study course “Ships High Voltage equipment”. In this study course description can find the following competencies to be achieved (some):
  3. Operate computers and computer networks on ships.
  4. Use internal communication systems.
  5. Maintenance and repair of bridge navigation equipment.
  6. Maintenance and repair of electrical, electronic and control systems of deck machinery and cargo-handling equipment.
  7. Maintenance and repair of control and safety systems of hotel equipment.

It does not match Mod. course 7.08, competence 1.4 (Operate and Maintain Power Systems in Excess of 1000V).
- The curriculum of the “Operation of Ship Electrical and Automation Equipment” study programme has no information regarding the STCW compulsory short courses.

### ***Recommendations for elimination of weaknesses and for further development***

- It is recommended to carry out a detailed review of study courses in accordance with the Convention STCW Section A-III/6, and recommended mod. course 7.08. before the next school year. Responsible person- Educational Program Guarantee (according SAR);
- It is recommended to create separate study courses based on module courses. (STCW compulsory short courses)
- It is recommended to create one standard for descriptions of study courses.

- It is recommended to include references to module courses (for each topic) in the descriptions of study courses.

**Assessment:**

Excellent	Good	Average	Poor	N.r
		X		

## 6. Teaching and learning materials

According to the specifics of the speciality for quality study process teaching and learning materials must consist of three parts. The first is literature sources for the acquisition of theoretical knowledge, the second - materials - technical support, the third - technical means for the implementation of special courses. Materials, technical support and evaluation of technical means should be done in the resources section, but based on the specifics of the speciality, the experts dared to partially analyze these components by adding them to the teaching and learning materials.

Scientist Council approved study programs according regulation: *”Положение о формировании, утверждении и оценке образовательных программ”*. Study courses and methodical guides are considered and approved at meetings of the Department of Marine Training. The process of developing and updating the teaching and learning materials takes place in accordance with AUMI regulations. Information acquired during the remote site visit confirmed that students and teachers are involved (at least nominally) in the development of the teaching materials. For example, students can suggest topics, literature, exercises, technical solutions for new ships or teaching formats to the teachers. Teachers, after evaluating such suggestions, can further recommend corresponding revisions in the course content and materials. This approach optimizes the quality of the teaching materials and their correspondence to the needs and requirements of both students and teachers.

The self-assessment report "Educational Program" link does not provide full information about the study course descriptions of the study programme. Upon additional request, information on study courses was provided. Overall, judging from the self-assessment report and additional information provided by AUMI and acquired during the evaluation visit, the quality of teaching materials is good and corresponds to the requirements of the program. The course descriptions and other materials available to the expert group were quite structured and clear but still needs some clarifications. As a critical remark, judging from the course descriptions and additional information provided by AUMI, some of the available teaching materials are based on outdated literature. A similar situation arose with methodological recommendations. According to the self-assessment report the link to the

internships (educational and production seagoing practices) description available only for the study programme “Navigation”. A link to the methodical guide is provided in the SAR. Unfortunately, this link does not provide complete information. In addition to the given information, methodological instructions were provided, such as for completing the course work. The methodological recommendations of the qualification exam reflect in detail the requirements to be set, the range of questions, and the evaluation criteria.

Bridge and engine room simulators are developed and in general meet international requirements. Software licenses such as Navi\_trainer Professional 5000 ver. 5.25 (2 activator keys), Engine Room Simulator ERS 4000, LCHS 5000 TechsIM, GMDSS Simulator TGS 5000 ver.8.2, GMDSS Simulator TGS 4000 ver.2.0, LCHS 2000 LCC Tanker Solo (2 copies), was issued 23.02.2021. For example, the Engine room simulator is used to acquire the skills of engineer and ETO for the control of various ships' machinery, to solve non-standard situations and various issues related to the control of the ships equipment. The recommended IMO model course 1.39 “Leadership and Teamwork” ( STCW 78 as amended A-II/1, A-II/2, A-II/3, A-III/1, A-III/2, A-III/3, A-III/6 ), as well as the supervising maritime education organizations, recommend to create one study course where the above-mentioned skills are acquired.

Laboratory equipment does not provide the acquisition of practical skills. An example: Electrical processes are modelled using various types of software, the operation of refrigeration equipment is modelled, and so on (as explained during the online meeting). Special laboratories are needed (for example: for the analysis of fuel lubricants and water) because by using them the student is able to acquire the necessary knowledge and skills, which will have to be applied in daily work on ships. Posters are mostly used in classrooms. They can be used as visual aids, but unfortunately, posters are not able to provide full information on the structure, design and ongoing processes of the mechanisms. The lack of different measuring instruments reduces the effectiveness of training.

The group of experts was given the opportunity to inspect the facilities in the port area where students receive practical training. This type of training model is acceptable for the partial acquisition of practical skills. While in the factory or on board, the student training process is subject to the needs of the current factory or port (ship). This means solving specific tasks. The laboratory and educational practice included and planned in the study process cannot be fully realized.

The equipment of the training centre provides training using various types of teaching aids, such as different types of fire extinguishers. Diverse emergency situations are modelled on the premises of the training centre to fight the fire. A fully equipped lifeboat provides practical training in driving a boat. Rescue suit equipment meets the requirements. The use of life rafts is also considered a necessary component for the successful conduct of the training process.

### ***Strengths***

- Teaching and learning materials mainly correspond to the achievement of the required results;
- The equipment of the training centre ensures the successful acquisition of short courses;
- Availability of premises for placement of teaching materials and creation of workshops

### ***Weaknesses***

- There is a lack of mainly teaching materials for acquiring practical skills;
- Some of the available teaching materials are based on outdated literature;
- Difficult implementation of shore (educational) practice;
- According to the SAR the link to the internships (educational and production seagoing practices) description available only for the study programme “Navigation” ;
- Methodological guides do not fully cover all study courses;

### ***Recommendations for elimination of weaknesses and for further development***

- In order to improve the training process, it is necessary to install premises with specific (according to the profession) equipment.
- It is recommended to attract cooperation partners and sponsors for obtaining training materials;
- It is recommended to establish a system of methodological guides;
- It is recommended to establish standards for the approval of teaching literature;
- To secure a mechanism of monitoring and inclusion to the program current achievement of science and outputs of development work specific to study discipline;

### ***Assessment:***

<b>Excellent</b>	<b>Good</b>	<b>Average</b>	<b>Poor</b>	<b>N.r</b>
		<b>X</b>		

## 7. Techniques and methods of educational activity

As the fully independent activity of the educational institutions has started in 2020 there is no base for the teaching methods development comparison. The forms and methods actually used during the teaching processes are described in Cl. 2.3. of institution local regulation "Regulations on the organization of the educational process". For the moment they are mostly traditional, ineffective means of demonstration are used (the sets of posters, school blackboards and chalk). The grading system in accordance with ECTS requirements is applied. A 100 point grading system is in use too. Student's evaluation methods are described in the same document Cl. 2.5. Evaluation criteria are available for review on the institution website together with other didactic materials. Each subject of the educational programme consists of a list of exam questions. The coursework is planned, which provides for the implementation of the main navigation tasks. In general, the teaching methods are acceptable and ensure the learning process. Academic integrity principles set out in the SAR, Cl. 4. A program for checking works for plagiarism is recommended, a list of measures applied to the persons who violate the principles of academic integrity are indicated.

To take into account the opinions of stakeholders on the quality and content of study programs, the website provides a form, which includes a sender's address (<http://new.kmtc.com.ua>). The right to transfer students to other educational institutions, admission to study at their institute, transfer to other specialities is indicated according to Ukrainian legislation. The rules of these processes are stated in "Regulations of the organization of the educational process" Cl. 3.1 "Procedure for translation, deduction and renewal of higher education accessories". The meeting with the students was attended by some who had previously studied in other educational institutions. There are regulations for the transfer of discipline results for such students. The procedures are described thoroughly and it seems that there is no problem with practical application.

E-learning is presented on Moodle electronic platform. It is possible to contact responsible teachers via Viber directly according to teaching staff information. It is allowed to perform tasks during a job at sea. A student-centred approach is released by possibilities to choose the individual trajectory of education (as stated in Self-assessment report, Cl. 1). In case of being late for the session, the student has the right to an individual schedule of exams. According to the teaching staff information, self-passing tests for self-control are available in classrooms. The institute's website contains test tasks and methodological instructions for performing practical works. A list of recommended reading is available in the classroom's computers with access to an electronic library. The opportunity to use professional literature stored in other libraries (electronic version) is possible, but only with a personal visit.

Exchange of students or wider mobility of students doesn't exist. AUMI understanding of the importance of mobility in higher education is very restricted. According to a Self Assessment report, the meaning of mobility is reduced to transferring students from one institution to another. It is something different. Of course it is good that the Institution can acknowledge competences (credits) gained in previous education however it still should create conditions for mobility and exchange of students by signing dedicated agreements with other higher educational institutions (national and international), assuming adequate procedures, providing information etc



### ***Strengths***

- Online/offline contact with students at sea using necessary means of modern communication.
- Possibility to access free bibliography resources from electronic sources.
- There is a possibility to adopt applicants from another institution of education taking into account the disciplines learned.
- Annual revision of programs is planned

### ***Weaknesses***

- Mostly traditional forms of education are used.
- Limited technical possibility to apply the modern forms of education.
- The library with which the institute cooperates is not focused on professional literature
- The own bibliography resources are limited.
- The form for recommendations and suggestions posted on the web site is not anonymous

### ***Recommendations for elimination of weaknesses and for further development***

- To implement modern forms and methods of education such as brainstorming, situational modelling, casing;
- To improve the presentation of educational material by using projectors, computer simulation.
- To indicate the timing of programs revision, including the teaching methods revision/updating.
- Organize an opportunity for authorized students to use professional literature remotely
- To develop syllabuses for study courses to make it easier for students to understand the course of the educational process.
- Student proposals are better to conduct in anonymous mode.
- Create conditions for mobility of students

### **Assessment:**

<b>Excellent</b>	<b>Good</b>	<b>Average</b>	<b>Poor</b>	<b>N.r.</b>
		<b>X</b>		

## 8. Teaching staff

Procedures for attracting and employing qualified teaching staff have been described in the materials provided by AUMI. The procedure has been developed on the basis of the following regulations: “*Положение о проведении конкурсного отбора при замещении вакантных должностей научно-педагогических работников и заключения с ними трудовых договоров (контрактов)*”, “*Положение о планировании и учету работы научно-педагогических работников*” The review of the regulations is planned annually. The selection strategy and selection procedures, as well as the related procedures, were defined in detail during the online meeting. According to compliance of the qualification of teaching staff with conditions for the implementation of the bachelor study programme, it has been stated that the teaching staff have the appropriate professional qualifications, academic title, degree and the necessary practical experience.

AUMI has developed regulations on teacher ratings: “*ПОЛОЖЕННЯ ПРО ВИЗНАЧЕННЯ РЕЙТИНГУ НАУКОВО-ПЕДАГОГІЧНИХ ПРАЦІВНИКІВ*” Based on these regulations, the rating of teachers is determined (using the points system). The regulation describes in detail the criteria according to which the number of these points is calculated, the ratio between the academic and research workload of teaching staff The regulations on ratings state that the dissemination of research and the pedagogical activities of each employee is reflected in each individual work plan. The relationship between the academic and research workload of teachers is balanced. Unfortunately, during online visits, not all teachers were able to explain this procedure. According to experts, this may be due to the fact that AUMI has recently started operating as a higher education institution and the influx of new teachers is quite large, who, in turn, have not yet fulfilled their annual report.

As a positive note, the professional knowledge that manifests itself in combining the work of lecturers. Some of the lecturers are active seafarers, which testifies to their professional suitability. According to appendix 3 of the SAR and the submitted CVs, the given study course is implemented by 3 professors, 9 associate professors and 7 lecturers. The lack of CV of all the teaching staff members makes it difficult to assess the full picture of professional development.

In addition, AUMI has a regulation on in-service teacher training: “*Положення про підвищення кваліфікації та стажування науково-педагогічних працівників*”. This regulation provides for two options for professional development: short-term and long-term. In the context of academic staff training, there are opportunities to diversify directions to develop new professional skills and abilities, for example, by including courses and other targeted training activities, improving scientific data processing skills, etc.

Due to the fact that AUMI is a new educational institution, the issue of teacher mobility has not been resolved yet. Teacher mobility is limited. Some of the lecturers have recently started working with AUMI, moving from others, including maritime training institutions. For the time being, mobility is based on personal contacts. During the online

visit, the AUMI administration explained that the issue of mobility is very important and very much attention will be paid to it. Many universities have been approached to form close ties in this field. One cooperation agreement with the Croatian Maritime institution is in the process of creation.

No inbound mobility was observed. This is an untapped opportunity to improve study programs, as inviting recognized scholars and/ or good professionals from abroad as visiting academic staff (face-to-face or online) to participate in the program could significantly help develop some modern academic and scientific science skills and competencies for both students and for academic staff.

The cooperation of the teaching staff in the implementation of the study program is mainly based on the activities of the department within the scientific council. Study courses have curators through whom cooperation is implemented.

***Strengths***

- A sufficient part of the lecturer has experience in work at sea, part of the lecturer combines work at sea with teaching at the institute;
- An approved for Ukraine ratio between the methodic, academic and scientific workload of teaching staff is applied;

***Weaknesses***

- According to the available documents, outgoing mobility of the teaching staff external mobility is comparatively rare;
- There is not enough practice of incoming mobility of teaching staff;

***Recommendations for elimination of weaknesses and for further development***

- Joint mobility agreements with foreign universities and involvement in mobility projects (for example, Erasmus+) should be activated;
- Every staff member should have a CV, where scientific, pedagogical and organizational experience is presented in detail;
- It is recommended to translate the normative documents that are referenced in the text into English;

***Assessment:***

<b>Excellent</b>	<b>Good</b>	<b>Average</b>	<b>Poor</b>	<b>N.r</b>
	<b>X</b>			

## 9. Resources

The AUMI sees opportunities to ensure the availability, quality and sustainability of financial resources, using three sources: students' fees, short courses fees and crewing service inflows.

AUMI was established on the basis of the Marine training centre. This, in turn, provides advantages in the implementation of the study course. Marine Training Center equipment, in general, meets international requirements. Based on the submitted documents, as well as seen during the meeting, the experts had the opportunity to verify the current situation. The training centre implements a series of training courses for seafarers. On this basis, training courses for students are also implemented.

Within the framework of providing shore or educational practice, AUMI has concluded cooperation agreements with Kherson State Plant "Pallada" and "*Херсонський морський торговельний порт*" Nr.156Д. 11.12.2018. Clause 4.1 of the agreement shows the term of the agreement - 1 year. In Section 4.5 the contract extension for another 1 year (which can be done once). Judging by the submitted documents, the term of the agreement with "*Херсонський морський торговельний порт*" No.156Д has expired. Despite such shortcomings, the group of experts was given the opportunity to inspect the facilities in the port area where students get practical skills. Unfortunately, the use of these resources does not fully cover the needs of the curriculum of the "Operation of Ship Electrical and Automation Equipment" program. An example is the "Ships high voltage equipment" course. The HV(high voltage) switchboard provides informative insights into HV equipment. The service staff of the mobile HV troubleshooting laboratory and workshop provided comprehensive information on the operating principles of the system. This is very positively assessed by experts, but the use of this HV equipment is not possible in the training process. A demo version of HV equipment is needed, where students can acquire skills and competencies by implementing all the necessary procedures and realizing an important component - teamwork. Factory workshops provide general information on the equipment of the turner and welder professions and the work to be performed. Students can only acquire partial skills in these areas in this regard. Activities onboard (in the port area) provide general information on job responsibilities for a specific speciality, which in principle partly overlaps with seagoing practice.

A library has been established on AUMI premises. Equipment was shown during the Zoom conference. Teaching aids, regulatory documents were shown as an example. In addition, a computer class has been created, where online materials can be found. The materials database is structured. Access to the database is free and without restrictions. AUMI has a cooperation agreement with the city public library. According to a library staff member, the collection of technical literature in the public library is limited, but the database is being expanded at the specific request of AUMI.

It would be important to note the existence of an engine room simulator in an educational institution. This is an important and integral part of the learning process.

Unfortunately, the auditorium equipment is not yet fully able to provide a 100% quality learning process. Due to the fact that the training building is being repaired, part of the premises is not available.

The auditoriums shown to the experts have been renovated, intended for a small number of students (which is assessed positively). In classrooms, posters are preferred over computer presentations, which would allow teachers to develop, demonstrate and disseminate materials more frequently. Posters are also used as visual aids. During the discussion, the lecturers informed that if necessary, the IT department provides the necessary equipment. Unfortunately, the visual aids (except for the rigging workshop) could not be identified by the experts.

On a positive note, based on a discussion with teachers and students, everyone noted the use of different IT platforms in the training process. Moodle is widely used. Due to epidemiological restrictions, the Zoom platform was widely used. Most students are part-time students who combine work onboard and training. Full-time students need a sea internship to complete their training successfully. In these cases, as confirmed by students, practice supervisors, study course curators are in direct contact with the student using various means of communication, including the above. Information about study programs, studies are publicly available, as well as complete information about the course of the study process is provided, etc. Such information was provided by the administration, teachers and students.

The SAR includes references to various types of documents, including descriptions of study courses, methodological recommendations, study course descriptions, etc., as well as a reference to the AUMI web page. The study of this section revealed shortcomings. Not all references provide the necessary information on a given issue, as well as the web page, looks incomplete. The administration and the lecturers agreed with these arguments, adding that this type of deficiency will be eliminated in the near future and due to the small number of students, communication with students is done individually, as a result of which all the necessary information is provided fully.

### ***Strengths***

- The AUMI has facilities with the possibility to improve and expand.
- The AUMI possesses a Marine training centre, engine room simulator.
- Good potential for growing (own territory, own buildings, own simulators).
- The AUMI management has an opinion and sees opportunities to ensure the availability, quality and sustainability of financial resources, using three sources: students' fees, short courses fees and crewing service inflows.

### ***Weaknesses***

- Unfinished reconstruction of the main part of the premises.
- Lack of some important training equipment.
- Absence of the workshops (mechanical, electrical).
- Lack of specific laboratories.
- Lack of the high voltage simulator with the possibility to simulate problems and organize teaching fully in accordance with STCW requirements.

***Recommendations for elimination of weaknesses and for further development***

- It is recommended to create mechanical and electrical workshops.
- It is recommended to find possibilities to get an HV demo version simulator.
- It is recommended to find possibilities to get laboratory equipment for study courses: “Theoretical basis on electro technics”, “Electronics, circuit technology and power electronics”, “Electrical machines”.
- It is recommended to find sponsors, who can support significant capital investment or donate some equipment.
- To finalize premises reconstruction before the start of the school year.
- To improve the condition of the existing facilities.

***Assessment:***

<b>Excellent</b>	<b>Good</b>	<b>Average</b>	<b>Poor</b>	<b>N.r</b>
			<b>X</b>	

## **10. Research work**

The scientific work in AUMI is carried out in accordance with the “Plan of scientific work of the Maritime Institute of Postgraduate Education named after Rear Admiral Fyedor Fyedorovich Ushakov”, considered by the Scientific Council of the Institute and approved by the Rector of the Institute. “Plan of scientific work for 2021” is available on the Institute website. The research work of the teachers and students is briefly described in the self-assessment report. The self-assessment report mentions only readings involving students and academic staff. AUMI administration provided additional information on the directions of

scientific work and publication. From the received information it can be concluded (according to the given study programme):

- 1) AUMI is a registered scientific research topic “Concept of sustainable development of the maritime sector”. The aim of which is to study the concept of development of the maritime sector and form recommendations in the sector, training for sustainable development, the introduction of new technologies
- 2) AUMI has organized 3 conferences - “УШАКОВСКИЕ ЧТЕНИЯ «Речной и морской транспорт: СОСТОЯНИЕ, ПРОБЛЕМЫ, ПЕРСПЕКТИВЫ”.
- 3) Scientific methodological seminars are organized in the departments.
- 4) Authors of teaching aids and methodological recommendation (2), who participate in the implementation of the given programme. Unfortunately, they do not teach subjects from the block “Professional training cycle.”
- 5) The process of successful education of lecturers reaching scientific degrees was also reflected.
- 6) According to this study programme: 4 publications are presented. In the list created in the form of a table, there are 5 items, but one was repeated 2 times. 3 of them were issued more than 5 years ago, one - in 2017. Unfortunately, the CVs of these authors were not submitted. Their surnames are also not included in the list of lecturers in the self-assessment report. They did not attend the online meeting either.

### ***Strengths***

- AUMI have a plan of scientific work.
- Conferences are being held on a regular basis.

### ***Weaknesses***

- Minimal involvement for research work from the student’s side.
- The Institute does not apply recommendations or requirements for the academic staff publication periodicity and level.
- The institute did not present any research equipment or laboratory.
- The quantity of scientific publications is minimal and doesn’t prove the high level of the institution.

### ***Recommendations for elimination of weaknesses and for further development***

- Students should have the opportunity to participate in the research carried out by the academic staff of the field both as research participants and voluntarily, thus getting to know the research process better.

- To arrange conditions for research conducting- equipment, premises, information base, internal conferences.
- Recommendation to find a way to manage the scientific publishing process, increase the number of publications.

**Assessment:**

<b>Excellent</b>	<b>Good</b>	<b>Average</b>	<b>Poor</b>	<b>N.r</b>
			<b>X</b>	

## **11. Cooperation and internationalization**

The AUMI shows some signs of Internationalization by establishing first contacts with foreign partners/institutions. One good example could be a membership in the International Chamber of Commerce. It is understood that due to the short history of the Institute the scope and depth of international cooperation is relatively small. It has also been relatively restricted by pandemic Covid-19 recently.

The programme is internationally recognized incorporating international standards established by the International Maritime Organization in the Convention on Standards of Training, Certification and Watchkeeping for Seafarers known as the STCW convention. The most visible side of internationalization is a professional practice that students often undertake on foreign ships. It is additionally strengthened by staff members who in many cases possess professional maritime qualifications and worldwide practice.

However, the academic level of education which AUMI provides shall be based also on academic internationalization which is not visible. AUMI is lacking cooperation with academic higher institutions, research centres and developing centres. AUMI doesn't have effective tools and mechanisms for exchanging students and teachers. The ability to communicate in foreign languages of administration, teachers and students is on a low level. Offered programmes are not based on the current achievement of science and outputs of development work. AUMI at least shall monitor activities in these areas and outputs transfer to own education.

The cooperation with the local (regional) economic environment is in a quite good shape. Mainly they consist of crewing agencies, companies, training centres and public services. However, those partners shall be much more included in programme design, shaping learning outcomes, evaluation of competencies. It shall be also developed in a formal manner (agreements, standardized communication).



### ***Strengths***

- Openness for participation in international programs.

### ***Weaknesses***

- Lack of academic internalization.
- Students are not involved in cooperation and internationalisation activities.

### ***Recommendations for elimination of weaknesses and for further development***

- Start cooperation with the national and international academic higher institutions, research centres, developing centres.
- Secure tools and mechanisms for exchanging students and teachers.
- Secure communication competencies in foreign languages of staff and students at least on level B2 of Common European Framework of Reference for Languages for internationalization purposes.

### ***Assessment:***

<b>Excellent</b>	<b>Good</b>	<b>Average</b>	<b>Poor</b>	<b>N.r</b>
			<b>X</b>	

## **12. Employability of graduates**

The goals of the study programme are generally to satisfy the requirements of professional skills and educational level of the international and local labour market. Some of the graduates are employed via the crewing partners (V- Ships), some on their own. A significant part of students have their own sea experience and are employed independently after graduation from the institution. Employers are invited to submit their proposals for the training of applicants for higher education through a website.

During the accreditation visit, the expert group managed to find out that the goals of the educational program take into account regional peculiarities. In particular, the city of Kherson has access to the Black Sea, there are several seaports, which is very important in the practical training of students. Existing ports in the city of Kherson carry out constant economic activity. However, AUMI partners mainly - crewing agencies. The majority of students (approximately 90%) study part-time and are already employed in the maritime field. This indicates that students are aware of the choice of this particular educational program.

During an online meeting with employers, it was found that they are involved in the development of the educational program and have the opportunity to influence its content as needed. In particular, the amount of workload of lectures or practical classes, the scope and direction of practice, etc. Employers also stated that they hire students with a score of at least 4. However, in general, according to employers' words, the level of knowledge of students/ graduates has become lower and they have to hire students/ graduates with a lower score.

In 2019, the AUMI developed "Regulations on monitoring the quality of education and educational activities." This provision includes such key components as the regulatory framework, the content of stakeholder monitoring, the procedure for conducting a stakeholder survey, methods for evaluating survey results, as well as sample questionnaires for students, graduates and employers.

***Strengths***

- Communication and cooperation with employers and stakeholders is established ;

***Weaknesses***

- Some employers believe that the knowledge level of graduates is gradually declining (the middle point in many cases are lower 4);
- The AUMI partners are mainly crewing agencies. While maritime consists also from other actors: maritime administration, owners, shipyards were not present as partners;

***Recommendations for elimination of weaknesses and for further development***

- Develop partnerships with more different actors;.

***Assessment:***

Excellent	Good	Average	Poor	N.r.
	X			

**13. Student services**

The analysis of the SAR and the meeting with the students makes it possible to state that the communication between the students and the administration of the AUMI regarding the educational process takes place primarily through the education department. In particular, the training department provides up-to-date information on classes, practice, necessary documents, etc. The department of education is a place where students can resolve conflict situations, report corruption, etc. At a meeting with the AUMI administration, it was found out that the announcement of sessions and other key events, especially for part-time students, is officially sent via mail, and modern Viber-type messengers, that are used for faster communication.

Students also have the opportunity to learn the necessary information through AUMI's website. However, an analysis of the site's pages shows that some pages need refinement. Students noted during the meeting that feedback from the institute also takes place through surveys, which are conducted approximately once a year and include questions about the educational process, practical training and the work of the AUMI as a whole.

The rights of students are protected by an established and functioning body of student self-government. For this activity, the "Regulations on student self-government" is developed and implemented.

***Strengths***

- Organizational support for students through the study department of the AUMI;
- The student government protects the rights of students.
- The administration conducts regular surveys on the content of educational programs and the quality of education.

***Weaknesses***

- Insufficient information content on the website.

***Recommendations for elimination of weaknesses and for further development***

- To develop and improve information about the educational process on the website.

***Assessment:***

<b>Excellent</b>	<b>Good</b>	<b>Average</b>	<b>Poor</b>	<b>N.r.</b>
	<b>X</b>			