



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Lietuvos aukštosios jūreivystės mokyklos
LAIVŲ ENERGETINIŲ ĮRENGINIŲ EKSPLOATAVIMAS
STUDIJŲ PROGRAMOS (653H56001)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF EXPLOITATION OF SHIPS POWER PLANTS
(653H56001) STUDY PROGRAMME
at Lithuanian Higher naval school

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Išvados parengtos anglų kalba
Report language - English

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Laivų energetinių įrenginių eksploatavimas</i>
Valstybinis kodas	653H56001
Studijų sritis	Technologijos mokslų studijų sritis
Studijų kryptis	Jūrų inžinerija
Studijų programos rūšis	koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (4); Iššęstinė (6)
Studijų programos apimtis kreditais	240
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Laivų jėgainių inžinerijos profesinis bakalauras, Inžinierius
Studijų programos įregistravimo data	2009-08-31 , Nr.1-73

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Exploitation of ships power plants</i>
State code	653H56001
Study area	Technology Sciences
Study field	Marine engineering
Kind of the study programme	College Studies
Study Cycle	First
Study mode (length in years)	Full-time (4); Part time (6)
Volume of the study programme in credits	240
Degree and (or) professional qualifications awarded	Professional Bachelor in Ships power plants engineering, engineer
Date of registration of the study programme	2009-08-31 , Nr.1-73

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I. INTRODUCTION

The Lithuanian Maritime Academy was established in 1948 and has a long history through which its characteristics and names evolved: Klaipeda Maritime School (1948), Klaipeda Shipping School (1991), Post-secondary Maritime School, Klaipeda University Maritime Institute College (1998), Lithuanian Maritime College (2001) and finally, in 2008, seeking a clear international identification, the school was renamed “Lithuanian Maritime Academy (LAJM). It is a state higher school and a public institution.

The general presentation of LAJM is clear and precise. LAJM has an established and functioning Quality Management System (QMS) based by ISO 9001 standards. In 64 years LAJM trained about 11700 specialists in 11 study programmes.

Exploitation of ships power plants is the principal seafarers training programmes regulated by the state, national acts and EU. The programme was registered first in 2001 and amended in 2008, 2009, 2011 and 2012.

A Self-Assessment Group for the study programme “Exploitation of ships power plants” was formed (Order N° V-162, 31-12-2012). This group is lead by lecturer E. Zagaras, Head of the Marine Engineering Department (MED). The team is composed of seven academic staffs.

The Centre for Quality Assessment in Higher Education (CQHAE) performed an external assessment in 2004. The study programme was fully accredited on 23-03-2005. This accreditation was extended till 31-12-2013 (Order N° 1-73, 17-08-2009). The quality of implementation of the study programme is regularly supervised by quality assessors. The study programme is exclusive in the region.

School passed institutional review on March, 2012. Evaluation was authorised by the Minister for Education and Science of the Republic of Lithuania and organised under the Minister's authority by the Centre for Quality Assessment in Higher Education (CQHAE).

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

In 2011 the study programme was developed on the basis of study outcomes by assessing the ECTS conception and Dublin descriptors (as per the legislation regulating requirements for higher education: Order N°. V-60, 05-01-2011).

The study programme delivers a Professional Bachelor for the qualification of officer in charge of an engineering watch. After gaining the required experience at sea, the graduate can reach the rank of Second Engineer or the highest marine rank of Chief Engineer. Graduates can get management level positions. Electives are available to students during semester 8, in accordance with the requirements of the Standards of Training Certification and Watchkeeping (STCW 1978) for seafarers, as, for example: Personal Survival Techniques, Fire Prevention and Fire Fighting Elementary First Aid, Personal safety and Social Responsibility, Special Fire Fighting, Working with Rescue Boats and Rafts, First Aid, Transportation of Dangerous Goods...

There is a strong demand on the global maritime labour market for at sea or on shore positions. The objectives are well defined and learning outcomes are consequently clearly defined as well.

Learning outcomes correspond to the level of qualification offered. They are revised and periodically updated due to changes in the legislation and new trends of science and technology. They are clear and specific, and are available in electronic and on hard copy forms. They have been formulated according to all national (description of the Lithuanian Qualification Framework) and EU (Dublin Descriptors and European Qualification Framework) requirements. Students are well informed of their content.

Programme (name, structure, learning outcomes) and qualifications offered (Professional Bachelor in Ships power plants engineering, engineer) are compatible with each other, which was confirmed during the evaluation visit.

However there seems to be a misunderstanding concerning these learning outcomes. In the SER they are not described in section 1 where they should be, but rather at the beginning of section 2 devoted to curriculum design. Their description does not seem ~~very~~ clear in § 28 of the SER although it is clear in §22. However table 3 dedicated to the links between learning outcomes and academic subjects is well explicit.

2. Curriculum design

The study programme curriculum of professional Bachelor is organized to educate a marine engineer at operational and management level (The provided Certificate of Competence is Officer in Charge of an Engineering Watch).

The structure and the volume of the programme comply with the requirements of the Descriptor of General Requirements for Degree Awarding First Cycle and Integrated Study Programmes and General Regulations in the Field of Technological Sciences (Engineering).

Total volume of the ME study programme is 240 ECTS. The duration of full time studies is 4 years and of part-time studies 6 years. In the full-time studies, the number of ECTS taken in one year is 60, and in the part-time studies 40. No more than 7 subjects are taken in one semester.

Studies are completed with the final English and Qualifying Exam and, for those admitted after 2010,–with the defence of a final paper work. Consequently, a first thesis should be completed in the current (2013-2014) academic year. Due to this new fact, the department should pay a special attention, and prepare means to prevent plagiarism, as was recommended during the visit.

The links between learning outcomes and academic subjects are clearly expressed in Table 3, §31 and §32 of the SER. Their contents are in good adequacy with the level of the studies and the professional requirements and needs of Lithuanian and global maritime labour market.

The content of the subjects proposed, and the pedagogy used (well articulated in § 32 of the SER), are appropriate for a gradual achievement of the intended learning outcomes. List of subjects and modules is clear. Subjects are not overlapping or redundant. All these statements were verified during assessment visit.

3. Staff

Staff devoted to the ME programme is made of 33 teachers (1 professor, 4 associate professors, 26 lecturers and 2 assistants) and 5 staff members, which seems enough for the programme. The student per teacher ratio is reasonable for a B.A.: between 20 and 22 for the last 5 years.

Almost all of the teachers have both academic and practical work experience, which is expected for such a professional programme. This meets the legal requirements: in compliance with Order No.V-501, 09-04-2010, *On Approval of the Descriptors of General Requirements for First-Cycle and Integrated Study Programmes*, of the Minister of Education and Science of the

Republic of Lithuania (Žin. 2010, No. 44-2139), more than 50% of the teachers in the programme are to have no less than three-year practical work experience in the field of taught subject, and 10% of the study field subjects are to be taught by scientists. Teachers are certified every 5 years (last assessment in 2010) in compliance with the *Regulations of Attesting and Competition for Tenure of the LAJM Teachers in the Field of Technological, humanities and Social Sciences*. Students also evaluate them yearly.

The high qualifications and the number of the teaching staff are adequate to ensure the expected learning outcomes. Teachers are well involved in the maritime sector and have permanent contact with the industry. Most teachers teach both in Marine Navigation and Exploitation of ships power plants study programmes. Teaching workload is about 20/25 contact hours weekly according to practice periods. Textbooks and monographs are produced by LAJM teachers and are available in the academic library.

The academic staff is in the 45-59 age group, which is rather high and will tend to increase. The study programme would need to bring in younger elements in the coming years.

In such a sector, where there are many graduate job opportunities abroad, it is necessary for teachers to have academic periods in a foreign country. The Erasmus mobility is correct with, for 2011-2012, an out-bound flow of 5 teachers but the inbound (2) coming from outside to LAJM should be increased. Teachers expressed this during meeting with visiting team. Sufficient time should be allowed for more teachers to conduct research at the doctorate level.

School creates conditions for development of its staff. School provides over thirty different courses for professional sailors. Permanent contact with professionals encourages to keep up-to-date knowledge. Applied researches have been carried out. They are located in area of safety of navigation, handling of cargo, port activities, marine traffic engineering etc.

Staff quality in relation to its number, competences, activity is on good level. It ensures achievement of learning outcomes

4. Facilities and learning resources

Studies take place in devoted premises located in a single campus area. The number of classrooms (40) and specialized lab (12) together with electronic simulators seems in adequacy with the pedagogy. Internet access has been available in 18 classrooms since 2012.

Equipment and simulators are modern and meet International Maritime Organisation requirements and LAJM needs. Laboratories are essential part in Marine Engineering training. Especially valuable are laboratories equipped with real apparatuses allowing to perform/simulate real on-board conditions.

School improved its learning facilities by introducing Virtual Ship. Virtual Ship consists from set of connected simulators that provide one common environmental allowing to make exercises simultaneously for bridge, engine and communication departments.

Full mission bridge simulator and two other bridge simulators are providing workspace for modelling of complex navigational situation.

Laboratories and simulators enable to deliver planned learning outcomes.

LAJM infrastructure is very well computerized (servers, network, computer terminals, wireless, data storage, emails system etc.). School provides library and reading room with sufficient number of books dedicated for Marine Engineering programme. They are accessible. Opening hours of library are suitable for full time and part time students. Additionally library provides access to e-books and databases of electronic references.

School is building IT knowledge centre. Basing on it, school is about to offer education using e-technology means. It was confirmed during the visit that, technically, school is ready for that step. However in order to achieve planned goals, the staff should be well prepared for training with the use of e-technology.

Infrastructure has been improved almost annually in last few years. School was able to obtain financial support from external sources. General picture of infrastructure and learning resources is very positive.

Sea going and workshop trainings are important in duration (4 months in workshop and 8 months of Sea going training, total duration 12 months). It represents an integral and exclusive part of the study programme. Student have practice aboard ships of various Lithuanian and foreign shipping companies.

Administrative staff and teachers have rooms where they can rest, prepare for lessons or give consultations for the students. School provides facilities for food purchasing (under refreshment during study visit), independent room for student's union. Finally school owns students dormitory with sufficient number of places.

5. Study process and student assessment

Students' admission meets the rules and procedures set by the Lithuanian Maritime Academy. Admission requirements are clear and publicly accessible. The minimum requirement for admission to Exploitation of ships power plants studies is secondary education with emphasis on Mathematics, Physics and Lithuanian. The number of student applications has been increasing regularly since 2010.

The number of fulltime students is approximately the same as the number of part-time students. They both receive the same quality of training. It is to be noted that most students attending the expert visit session were selected according to the highest marks.

The organization of the study process ensures an adequate provision of the programmes and the achievement of learning outcomes. There is a significant dropout between students admitted in first year and those who graduate. The dropout causes are analysed and are mostly attributed to the 2008-2009 crisis: students stopped studying, emigrated and/or started to work. Conclusions should be taken into account seriously in the future to decrease this dropout rate.

Special attention is paid to side activities: research (conference, presentations), art (maritime choir) and sports (gym, fitness centre, tennis hall). The balance between periods allotted for lectures (21%), trainings (47%) and individual work of students (32%) is quite correct but the total amount of 1120 hours/year devoted to lectures and training seems to be an upper limit that should not be exceeded. There is a noticeable increase in students participating in mobility programmes. In 2012-2013 there was an outbound of 15 students and an inbound of 4 students.

LAJM provides good academic and social support for its students. They can count for loans to cover their tuition fee or living expenses. Naval school ensures scholarships for its students. Students can receive scholarships basing on their achievements or financial status. Two students receiving support attended meeting with visiting team. They know the scholarships criteria.

Visiting team did not note any deficiencies in assessment system of students' performance. Assessment system of the students is laid out in Quality Management System documents. The system is transparent. Criteria of assessment were verified during visit. Students expressed opinions during meeting with visiting team that criteria of evaluation are:

- clear,
- accessible: students know them (they are informed about them by particular teachers and they can find them in written or electronic form),
- stable.

Visiting team had opportunity to check control works that are stored by school for evidence. Content of control works was found consistent with curriculum and grades given.

At this time, the Academy has not formulated a strategy to address the need to prevent plagiarism.

There is a strong relationship between the study programme and the labour market. The professional stakeholders seem satisfied with the students' qualifications. However, the SER

shows that the rate of unemployed new graduates, currently at approx. 25% should be looked into seriously.

6. Programme management

The responsibilities for implementing the programme are clearly allocated according to LAJM Statutes. The Department of Marine Engineering is in charge of improving and setting up programme strategies. For this, a Study Programme Committee was formed including teachers, students and graduates, technical and administrative representatives from the department. The assessment of the quality of the study programme implementation takes place regularly and at the end of each semester.

All necessary documents are formalized by the Quality Management System (QMS): quality guide, procedures, and instructions. Summary of these documents is listed in Appendix 5 of the self-assessment report (SAR). They are available on the LAJM web page. External assessors positively assessed the QMS of the LAJM. Summary of the last assessment (2004) is presented in appendix 4 of the SAR. The principal changes that took place are as follows:

- Students were included in the school management
- Course description are regularly updated
- Free choice electives were included
- Students dropout is analysed
- Client', students', graduates' and employers' opinions on the quality of the study process are taken into account

Above changes have properly been achieved by Study programme Department.

Students carried out a survey of the study programme in 2012/2013. Several (positive) comments were made and suggestions were proposed to improve the study programme. They participate in the programme administration and quality assurance by filling in assessment questionnaires, §98 of the SER. Similarly, employers were asked to assess the study programme in August 2011. They provided positive outcomes.

It should be underlined that due to rather small size of Higher Naval School (number of staff, students and premises etc.) internal communication is smooth and effective although not too formalized. External communication is on good level.

III. RECOMMENDATIONS

1. Special attention should be paid when defining exact learning outcomes of the study programme.
2. Attention should be paid on the staff turnover in the coming years. The academy should do its best for attracting new young teachers.
3. Learning outcomes should be defined with stakeholders in a well-defined manner. More formal meetings should be organized between professionals and the Academy.
4. The amount of time left to students for their own work should be enhanced. 1120 hours/year devoted to lectures and trainings seems to be an upper limit that should not be exceeded.
5. The drop out of the number of students between their admission and their graduation should be looked into seriously.
6. Special attention should be paid to the possibility, for all teachers, to go abroad for teaching experiences as well as research collaborations. More teachers from other countries should be incited to join the Academy for lecturing and more students from other countries should be, as well, incited to join the Academy for studying.
7. Measures against plagiarism should be improved.

IV. SUMMARY

The Marine Engineering programme of the Lithuanian Maritime Academy was evaluated on November 6, 2003. The general picture is positive. The visit was well prepared and organized. Meetings and discussions with administrative and academic staff, students/graduates and professional stakeholders were direct and instructive. The Self-Assessment Report was clear and well documented.

Links between learning outcomes and academic subjects are well presented and correspond to the objectives, even if learning outcomes could have been presented in a clearer way.

Teaching staff is skilled and experienced. They are dynamic and motivated. Their relationship with LAJM administrators is smooth, with students as well. They have a solid knowledge of the professional field of expertise. However, more international teacher exchanges would be fruitful.

Students are motivated because they realize they have a good chance to get employed after graduating. They are well informed of general academic regulations. They take part in the council department and in general activities of the Academy.

The Lithuanian Higher Naval School presents two particular strengths: facilities for laboratories and a Quality Assurance System. Infrastructure and learning resources are exceptionally good. They are modern and regularly updated (simulators, virtual ship). The computer network and information system are efficient and regularly updated and improved. Students have full access to it. Quality Management System is successfully developed and active. It should be continuously improved.

The Exploitation of ships power plants study programme is exclusive in the region. It fulfils marine industrial needs at the regional and national levels. Graduates can get positions at management level. Recommendations provided in this report should help to maintain this level.

V. GENERAL ASSESSMENT

The study programme Exploitation of ships power plants (state code 653H56001) at Lithuanian Higher naval school is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Staff	3
4.	Material resources	4
5.	Study process and assessment (student admission, study process, student support, achievement assessment)	3
6.	Programme management (programme administration, internal quality assurance)	3
	Total:	19

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;

2 (satisfactory) - meets the established minimum requirements, needs improvement;

3 (good) - the field develops systematically, has distinctive features;

4 (very good) - the field is exceptionally good.

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Santraukos vertimas iš anglų kalbos

V. APIBENDRINAMASIS ĮVERTINIMAS

Lietuvos aukštosios jūreivystės mokyklos studijų programa *Laivų energetinių įrenginių eksploatacija* (valstybinis kodas – 653H56001) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	3
3.	Personalas	3
4.	Materialieji ištekliai	4
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	3
	Iš viso:	19

* 1 - Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)

2 - Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)

3 - Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)

4 - Labai gerai (sritis yra išskirtinė)

<...>

IV. SANTRAUKA

Lietuvos aukštojoje jūreivystės mokykloje dėstoma *Jūrų inžinerijos (Laivų energetinių įrenginių eksploatacijoje)* programa buvo įvertinta 2013 m. lapkričio 6 d. Vizitas buvo gerai organizuotas, jam pasirengta. Susitikimai ir pokalbiai su administraciniu ir akademiniu personalu, studentais / absolventais ir socialiniais dalininkais specialistais buvo tiesioginiai ir informatyvūs. Savianalizės suvestinė parengta aiškiai.

Numatomi studijų rezultatai ir dėstomi dalykai suderinti, atitinka tikslus, tik studijų rezultatai galėtų būti aiškesni.

Dėstytojai kvalifikuoti ir patyrę, dinamiški ir motyvuoti. Jų ryšiai su LAJM administracija, kaip ir su studentais, yra sklandūs. Jie yra aukšto lygio savo srities profesionalai. Tačiau dėstytojams būtų naudinga aktyviau dalyvauti tarptautinių mainų programose.

Studentai yra motyvuoti, nes jie supranta turį gerą progą įsidarbinti baigus aukštąją mokyklą. Jie gerai susipažinę su bendraisiais akademineis reikalavimais. Studentai dalyvauja fakulteto tarybos ir visos mokyklos veikloje.

Laboratorių įranga ir kokybės užtikrinimo sistema yra dvi pagrindinės Lietuvos aukštosios jūreivystės mokyklos stiprybės. Infrastruktūra ir materialieji ištekliai yra ypač geri. Jie šiuolaikiški ir nuolat atnaujinami (imituokliai, virtualusis laivas). Nuolat atnaujinamas ir tobulinamas kompiuterių tinklas ir informacinė sistema. Studentams jie visiškai prieinami. Sukurta kokybės vadybos sistema, kuri veikia nuolat. Ją reikėtų nuolat gerinti.

Laivų energetinių įrenginių eksploatavimo studijų programa yra išskirtinė šiame regione. Ji tenkina regiono ir šalies jūrų pramonės poreikius. Programos absolventai skiriami į vadovaujančias pareigas. Šiose vertinimo išvadose pateiktos rekomendacijos turėtų padėti palaikyti šį lygį.

III. REKOMENDACIJOS

1. Ypač svarbu tiksliai nustatyti numatomus šios studijų programos rezultatus.
2. Reikėtų atkreipti dėmesį į darbuotojų kaitą ateinančiais metais. Aukštoji mokykla turėtų dėti visas įmanomas pastangas, kad pritrauktų naujų jaunųjų dėstytojų.
3. Numatomus studijų rezultatus reikėtų apibrėžti aiškiai ir dalyvaujant socialiniams partneriams. Specialistų ir šios mokslo įstaigos darbuotojų susitikimai turėtų būti organizuojami oficialiau.
4. Reikėtų didinti studentų savarankiškam darbui skiriamą laiką. Paskaitoms ir pratyboms skirtos 1120 valandų per metus, matyt, yra aukščiausia riba, kurios nereikėtų viršyti.
5. Reikėtų rimtai panagrinėti studentų „nubyrėjimo“ nuo įstojimo iki baigimo problemą.
6. Ypač daug dėmesio reikėtų skirti dėstytojų galimybei išvykti į užsienį įgyti mokymo patirties, taip pat bendradarbiavimo atliekant mokslinius tyrimus tikslais. Reikėtų pasistengti, kad daugiau kitų šalių dėstytojų atvyktų į šią mokyklą dėstyti ir daugiau studentų – joje studijuoti.
7. Reikėtų tobulinti antiplagijavimo priemones.