

**Decision Regarding the Assessment of the
Transport Services Study Programme Group
Tallinn University of Technology**

15/03/2016

The Quality Assessment Council for Higher Education of the Estonian Quality Agency for Higher Education and VET decided to approve the report by the Assessment Committee and to conduct the next quality assessment of the Transport Services study programme group in the first and second cycles of higher education at Tallinn University of Technology in four years

On the basis of subsections 12² (1) and 10 (4) of the Universities Act, point 3.7.3 of the Statutes of the Estonian Quality Agency for Higher Education and VET (hereinafter referred to as 'EKKA') and point 41 of the document, 'Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education', authorised in point 3.7.1 of the above-mentioned EKKA Statutes; the Quality Assessment Council for Higher Education of EKKA (hereinafter referred to as 'the Council') affirms the following:

1. On 25.11.2014 Tallinn University of Technology and EKKA agreed upon a time frame to conduct the quality assessment of the study programme group.
2. The Director of EKKA, by her order on 17.08.2015, approved the following membership of the quality assessment committee for the Transport Services study programme group in the first and second cycles of higher education at Tallinn University of Technology and TTK University of Applied Sciences (hereinafter referred to as 'the Committee'):

Kevin Patrick Brendan Cullinane – Chair	Professor of Logistics & Transport Economics, University of Gothenburg (Sweden)
Trevor David Heaver	Professor emeritus, Operations and Logistics Division, University of British Columbia (Canada)
Olli Matias Kauhanen	Student, Faculty of Technology and Maritime Management, Rauma University of Applied Sciences (Finland)
Gabriel Lodewijks	Professor of Transport Engineering and Logistics, Faculty of Mechanical, Maritime and Materials Engineering, Section of Transport and Logistic Technology, Delft University of Technology (Netherlands)
Hercules Haralambides	Professor of Maritime Economics & Logistics, Erasmus University Rotterdam (Netherlands)

Janek Saareoks	Schenker Ltd., CEO (Estonia)
Raivo Vare	Estonia Railways Ltd., Chair of the Management Board (Estonia)

3. Tallinn University of Technology submitted the following programmes for evaluation under this study programme group:

Logistics (BSc)
Logistics (MSc)
Maritime Studies (MSc)
Deck Officer (Prof HE)
Port Shipping Management (Prof HE)
Waterways Safety Management (Prof HE)

4. Tallinn University of Technology submitted a self-evaluation report to the EKKA Bureau on 27.08.2015 and the assessment coordinator forwarded it to the Committee on 27.08.2015.
5. An assessment visit was made to Tallinn University of Technology during 20–21.10.2015.
6. The Committee sent its draft assessment report to the EKKA Bureau on 02.12.2015, EKKA forwarded it to Tallinn University of Technology for its comments on 02.12.2015, and the University delivered its response on 17.12.2015.
7. The Committee submitted its final assessment report to the EKKA Bureau on 20.12.2015. That assessment report is an integral part of the decision, and is available on the EKKA website.
8. The Secretary of the Council forwarded the Committee’s final assessment report along with the University’s self-evaluation report to the Council members on 26.01.2016.
9. The Council with 7 members present discussed these received documents in its session on 15.03.2016 and, based on the assessment report, decided to point out the following strengths, areas for improvement, and recommendations regarding the Transport Services study programme group in the first and second cycles of higher education at Tallinn University of Technology.

Assessment at the Level of the Programme Group

Strengths

- Almost all of the students of this study programme group have excellent proficiency in English.
- Both Tallinn University of Technology (TUT) and the Estonian Maritime Academy (EMA) receive strong support from their alumni. The Department of Logistics and Transportation communicates with its alumni through a structured and well organised alumni portal, collecting statistical data about graduates of the study programmes on a regular basis. The Maritime Academy has an impressive website with a separate section dedicated to its alumni.

Areas for improvement and recommendations

- Collaboration between the Estonian Maritime Academy (EMA) and other units of TUT remains relatively weak at present. The University management must find ways to improve cooperation between the EMA and the other structural units of TUT. For the sake of better integration with TUT, the EMA should consider outsourcing more of its non-maritime related modules (such as logistics, transportation, economics, management, marketing, mathematics, and statistics) to other units of TUT.

- As a new structural unit of the University, the EMA must take decisive steps towards further development of its study programmes and teaching staff, and create suitable conditions for research within the existing infrastructure.
- At present the University seems to be lacking a plan for systematic staff development. Staff members who have recently earned their doctorates should be offered more support so that they could engage in research along with their teaching work.
- Requirements for research by teaching staff in different units of the University should be clearly defined and made uniform.
- Given the overall salary levels in the maritime sector, the University (EMA) should raise its salaries to be able to recruit high-quality experts as teaching staff.
- At present only a limited number of courses are taught in English. Establishing international contacts through research networks must be given more attention, which would allow the University to include more visiting lecturers from abroad in teaching.
- The student dropout rate is high. It is attributed to several different reasons depending on the study programme (financial, health, language skills), but the recurring reason characteristic of all programmes was students' insufficient proficiency in mathematics.

Assessment at the Study Programme Level

Logistics (BSc, MSc)

Strengths

- The Department of Logistics and Transportation is well managed with a clear strategic vision.
- The Department demonstrates a strong research culture which is also reflected in teaching.
- Largely thanks to up-to-date study programmes and teaching methods, the Department of Logistics and Transportation has an excellent reputation both inside and outside the University.
- The Department has very close collaboration with industry, implementing various specialist projects, participating in professional associations, organising summer schools and field trips, conducting in-service trainings, and involving external visiting lecturers in teaching.
- Many of the BSc and MSc theses have been written in collaboration with enterprises. Sometimes enterprises have put into practice the ideas proposed in theses and the results of research.
- A large part of the teaching material is available in English. Some theses are also written in English.
- A number of simulation and modelling programs are in use as effective teaching tools, to help visualise supply chains, for example.
- Both programmes place special emphasis on group work where students make use of digital tools to plan such work.
- A flexible approach to the teaching and learning process is applied, and distance learning materials developed in the Moodle environment are available.
- The Department has a free hand to plan teaching workloads and other activities allowing for flexible work distribution among the teaching staff.
- The Department enables teaching staff, upon their request, to further improve their English language skills. Teaching staff members have delivered lectures at foreign universities and actively participated in international conferences. Visiting lecturers have also been involved in teaching at the Department.
- Indicators for inward and outward international student mobility are very good.
- 100% of the students are able to find jobs in their fields.

Areas for improvement and recommendations

- The process of making formal changes in the study programmes has been made administratively complicated and bureaucratic. For the sake of dynamic development, this problem should be dealt with at either the Department or University management level.
- The study programmes are currently focused on the engineering of supply chains rather than their management. The study programme management should consider the possibility of paying more attention to supply chain management through appropriate elective or specialisation modules. This would help to enhance managerial and leadership skills of students who already know the basics of entrepreneurship and to take into account the requirements of employers in the Estonian logistics sector.
- The international dimension of the study programmes is limited since they are taught in Estonian and the opportunities given students to learn in English are few, and the ability to host international students is affected, for example. The MSc programme in particular should offer modules in English, with the goal in mind of developing a master degree programme that will be fully delivered in English.
- The study modules already developed by other TUT units should be utilised to allow students to specialise in different modes of transport. Given the already recognised need to offer more maritime-related training within these programmes (e.g. port and shipping management), closer collaboration with the Estonian Maritime Academy is required. The University's study programmes should be better linked to one another.
- The study programmes should incorporate more IT training; for example, computer programming and development of ERP systems.
- To qualify as a professional logistician, a graduate of the programme still needs to take a separate professional exam. The study programme management should begin negotiations with PROLOG to be given the right to award qualifications appropriate to the study programme.
- In comparison with the funding of research by doctoral students, research activities of the teaching staff are currently underfunded, curtailing their ability to attend international conferences and to remain up-to-date in their fields. The fact that the research activities of teaching staff are mainly funded by commercial enterprises may result in research outputs that are very specific to single organisations or even confidential and, in the long run, jeopardise the career prospects of staff in the international arena. A system for baseline financing of performance-based research should be established.
- The teaching staff should be encouraged to make more extensive use of modern teaching methods and digital tools in teaching (logistics software, e-learning materials, etc.).
- The teaching staff delivering generic courses should be directed to increase the use of pertinent examples such as logistics-based case studies. The number of field practitioners should be increased in the teaching.
- Teaching workloads are relatively high, leaving staff with not enough time for their personal development or research. Distribution of the workloads among teaching, research and other activities should be made clearer, as well as better monitored and managed.

Maritime Studies (MSc)

Strengths

- This study programme is valued highly by students, alumni and employers. This creates a favourable environment for further development of the programme.
- A large number of graduates are employed in the local labour market. Active collaboration with enterprises takes place within the study programme. Guest lectures are delivered by industry representatives. Visits to enterprises associated with specialisations take place on a regular basis.
- The merger with Tallinn University of Technology has had a positive impact on the finances of the EMA as well as on the quality of teaching and quality assurance processes.

- A relatively large number of courses are delivered in English.
- Students are highly motivated and have clear expectations and objectives for the study programme. Employers are pleased with the professional preparation of graduates.

Areas for improvement and recommendations

- At present the central concern of the EMA is to maintain its independence as a structural unit of TUT. However, the Academy should also think through the advantages that arise from merging with TUT and their potential impacts on study programme development. Teaching staff does not collaborate with other TUT units in a sufficient manner when delivering the programme.
- The current study programme is too focused on mainstream maritime topics and does not pay enough attention to other important fields of transport in the modern world, such as transportation in supply chains and multimodal transport. Taking market needs into consideration, the focus of the programme should be broadened to embrace the requirements of the rapidly evolving onshore sectors, and to provide an overview of international shipping and related areas. Marketing of the programme should be robust and better targeted.
- The study programme should put greater emphasis on topics related to business and management.
- Collaboration with employers in the field of programme development should be better formalised.
- Minutes of the meetings of the Programme Committee should be properly kept.
- Only very few members of the teaching staff have doctoral degrees.
- Funds for research activities by teaching staff are limited. Additional funding should be sought from the private sector.
- Enhancement of the teaching staff's teaching skills and updating of the teaching materials need more attention. More teaching staff with both knowledge in the use of modern teaching methods and practical experience should be involved in the teaching.
- The proportion of experiential learning in the study programme should be increased to better prepare the students for success in the labour market.
- Teaching staff should provide more help to students in finding internship places.
- It is important to establish closer relationships with foreign higher education institutions to promote internationalisation and provide better opportunities for student mobility.
- Student feedback should be analysed, and the findings should be taken into account and shared with students.
- The EMA library should be better integrated into the TUT general library system. At present the students of the Logistics programmes at TUT do not have access to the EMA's holdings through the TUT library database.

Deck Officer (Prof HE)

Strengths

- The Deck Officer programme has a clear focus and is highly appreciated by both students and employers.
- In the opinion of the Estonian Maritime Administration, the programme is fulfilling international statutory requirements.
- From the perspective of study programme development, all stakeholders consider the merger of the EMA with TUT as an extremely positive development. Students believe that the quality of their studies has improved since the merger with TUT.
- Teaching resources, including the Simulator Centre, are impressive and up to date.

- The laboratories and other teaching facilities have recently been expanded and improved as a consequence of the merger between the EMU and TUT.
- Students highly appreciate the practical experience of the teaching staff.
- It is a positive sign that both teaching staff and employers want to see more female students in the Deck Officer programme who would subsequently pursue careers in the maritime sector.
- Students are highly motivated and have clear expectations and objectives for the programme as well as good employment opportunities.

Areas for improvement

- The new name of the programme in English, 'Navigation', is confusing since it may also refer, for example, to air traffic control or other aspects of navigation which are outside the realm of the Deck Officer programme. Under this new title, the content of the programme should also be expanded in accordance with international trends. However, within the existing content, it would be advisable to retain the original informative name 'Deck Officer'.
- The demand for employees with seafaring experience in the on-shore sectors should be assessed and, if necessary, an expansion of the study programme considered.
- In addition to international statutory requirements, the study programme should also incorporate commercial aspects of the international shipping industry that are linked to international trade or maritime law.
- Teaching staff are not actively engaged in research. In the longer term, the teaching should be more research based. Theory courses should have at least an equal role to practical skills training in the programme.
- It would be useful to provide students with on-board training as early as in the second semester of the first academic year. Students believe it would prepare them better for life at sea and also help to reduce the dropout rate. To prepare the students for such practical training, it would be necessary to decrease the number of generic courses in the first semester and at their expense increase specialised content. Basic safety training should also be conducted.
- Carrying out mandatory on-board training is rather difficult where there are no training vessels. Therefore students are forced to actively seek their own practical training places. The EMA should look into possibilities of buying or renting a training vessel and assisting students to find practical training places.
- Despite the availability of e-learning materials, the majority of teaching and learning activities take place in the classroom, and therefore the load for students' independent work is too small.
- In order to create mobility opportunities for students, relationships with foreign higher education institutions should be promoted, taking advantage of numerous international contacts of the Department of Logistics and Transportation, for example.
- All teaching staff members should be required to continuously improve and update their teaching skills.
- The study programme should offer more courses taught in English.

Port Shipping Management (Prof HE)

Strengths

- The study programme is appreciated by both employers and students and prepares the students well for both further studies and employment.
- A positive aspect of the programme is parallel learning in three languages (Estonian, English and Russian).
- The programme provides a solid base for continuation of studies in the MSc programme in Maritime Studies.

- The merger with TUT has improved the funding for the programme, new investments have been made in classrooms (including laboratories).
- Due to the merger with TUT, students have access to e-resources of the TUT library through the virtual private network.
- Systematic evaluation of the effectiveness of teaching has been commenced, being a laudable development.

Areas for improvement and recommendations

- The name of the study programme is not fully consistent with its content. The programme should contain more content on management and logistics. To this end, competences available from other TUT units should be exploited. Such additions to the content and change of the name could facilitate marketing of the programme and attract more attention from prospective students.
- Further attention should be given to integration of teaching responsibilities between the EMA and other units of TUT. The integration of maritime and logistics modules would be especially useful.
- Interaction between employers and teaching staff should be systematic to keep teachers informed of new developments in the field that should also be included in the programme.
- The study programme could incorporate more elements of practical work (e.g. case studies) to better prepare students for their professional lives.
- There are significant differences between the knowledge of the teaching staff and the quality of their teaching. Consistency of the teaching quality needs more attention.
- There is no clear staff evaluation system in place. Teaching staff should be encouraged to take in-house professional development courses and make use of the latest education technology tools.
- A strategy should be developed to facilitate and support research activities of the teaching staff.
- Teaching staff does not appear to make use of the opportunity to order books, magazines, etc., through the TUT central library. The EMA library should be better integrated into the TUT general library system.
- Students need to be provided with further support for finding practical training places, at present this is done merely by their own initiative. The role of the University should be expanded with regard to organising and supervising practical training.

Waterways Safety Management (Prof HE)

Strengths

- Study programme management is of high quality. The Director of the programme has a clear vision for the programme's future.
- Commendable efforts have been made to market and introduce the programme to the public.
- The Maritime Administration provides the programme with excellent support. Employers also are very supportive of the programme.
- The study programme has a solid academic content.
- Students highly appreciate the practical experience of teaching staff members.
- Entrants demonstrate excellent mathematical skills.
- Graduates believe the programme has provided them with good specialised preparation. Graduates of the programme are also respected abroad.

Areas for improvement and recommendations

- Students do not have a clear view/overview of their career opportunities. The marketing materials for the study programme could include more information on career opportunities, and

employers and alumni could also introduce such opportunities to students during their visiting lectures.

- From the perspective of further programme development, internationalisation is crucial, which would ensure a sufficient number of students and expand the potential job market.
- In order to increase the number of students, international recognition should be sought in the form of a Category A accreditation awarded by the International Hydrographic Organization (IHO). To this end, student workloads for basic courses should be increased in the programme, among other things. Some existing courses could be offered as electives.
- In view of probable future trends, student workloads for generic courses in the programme (e.g. economics, finance) should not be reduced, but collaborate instead with other units of TUT to deliver these courses.
- The Ship Construction course actually relates to navigation and stability characteristics of ships and could be delivered by other TUT units.
- A larger number of specialised courses should be taught in English. The increase in the share of courses delivered in English would also increase the potential number of international students.
- Qualified staff from other TUT units should be involved in teaching since at present the programme lacks a sufficient number of teaching staff.
- To avoid duplication of course content, communication among teaching staff should be improved.
- Both students and employers emphasised the need to provide more practical and experiential courses within the programme.
- Students are of the opinion that sometimes the time gaps between the modules of linked content are too long (where the completion of one module is a pre-requisite for taking another module).
- Only a very small number of the teaching staff is engaged in research activities. Some teachers are willing to undertake research (partly due to external pressure), but the main obstacle is their large teaching workloads.
- Teaching staff evaluation process should be more rigorous.

10. Point 41 of the document, 'Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education', establishes that the Quality Assessment Council shall approve an assessment report within three months after receipt of the report. The Council shall weigh the strengths, areas for improvement, and recommendations pointed out in the assessment report, and then shall decide whether to conduct the next quality assessment of that study programme group in seven years, or in less than seven years.

11. The Council weighed the strengths, areas for improvement, and recommendations referred to in point 9 of this document and found that the study programme, the teaching conducted under this programme, and development activities regarding teaching and learning do not fully conform to the following requirements established by the regulation of the Government of the Republic, 'Standard of Higher Education':

- 1) At present the teaching staff delivering study programmes at Estonian Maritime Academy of TUT (including the Maritime Studies programme) do not actively participate in research activities related to their fields. In order to ensure that the number, qualifications and regular professional development of the academic staff required for the conduct of studies conform to clauses 6 (7) 1) and 3), the teaching staff must be encouraged to more commit themselves to research.

At present collaboration in the fields of research and teaching between TUT's Estonian Maritime Academy and other units of TUT is weak. The University management must find

levers to improve the collaboration between the EMA and other units of TUT. The non-maritime related modules (such as logistics, transport, economics, management, mathematics and statistics) must be outsourced to other units of TUT to a greater extent. Requirements for teaching staff research should be clearly defined and harmonised among the different structural units of the University.

- 2) The University lacks a systematic staff development plan. Sometimes obsolete teaching methods are used which do not adequately support the achievement of learning outcomes as provided for by subsection 6 (5) of the Standard of Higher Education. The student-centred approach and the use of up-to-date teaching methods should be given more attention in the teaching and learning process, and the teaching staff should be provided with opportunities for professional development along with improvement of their pedagogical skills, in accordance with clause 6 (7) 3) of the Standard of Higher Education.
- 3) In addition, the Council notes that the graduates of the Logistics programme, to qualify as professional logisticians, still need to take separate professional examinations. The study programme management should begin negotiations with PROLOG to be given the right to award qualifications appropriate to the study programme.
- 4) In the opinion of the Council, some study programmes offered by the EMA do not sufficiently take into consideration the changing needs of the labour market and the international trends.

12. On the basis of the foregoing, the Council

DECIDED

to approve the assessment report and to conduct the next quality assessment of the Transport Services study programme group in the first and second cycles of higher education at Tallinn University of Technology in four years.

The decision was adopted by 7 votes in favour. Against 0.

13. The Bureau of EKKA will coordinate a date for the next quality assessment of the study programme group with Tallinn University of Technology no later than 15.03.2019.
14. The Council proposes that Tallinn University of Technology will submit an action plan to EKKA with regard to the areas for improvement and recommendations pointed out in the report no later than 15.03.2018.
15. A person who finds that his or her rights are violated or his or her freedoms are restricted by this decision may file a challenge with the EKKA Quality Assessment Council within 30 days after the person filing the challenge became or should have become aware of the contested finding. A judicial challenge to the decision may be submitted within 30 days after its delivery, filing an action with the Tallinn courthouse of the Tallinn Administrative Court pursuant to the procedure provided for in the Code of Administrative Court Procedure.

Tõnu Meidla
Chair of the Council

Hillar Bauman
Secretary of the Council