



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Klaipėdos universiteto
STUDIJŲ PROGRAMOS JŪRŲ HIDROLOGIJA (*valstybinis kodas*
- 6211CX019, 621F80001)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF MARINE HYDROLOGY (*state code - 6211CX019, 621F80001*)
STUDY PROGRAMME
at Klaipėda University

Experts' team:

1. **Prof. Maris Klavins (team leader)** *academic,*
2. **Prof. Andrew Cooper,** *academic,*
3. **Prof. Dr. Adam Weintrit,** *academic,*
4. **Dr. Christiane Weber,** *academic,*
5. **Mr. Sakalas Gorodeckis,** *social partner,*
6. **Mr. Dionyzas Šlimas,** *students' representative.*

Evaluation coordinator -

Miss Lina Malaiškaitė

Išvados parengtos anglų kalba
Report language – English

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Jūrų hidrologija</i>
Valstybinis kodas	6211CX019, 621F80001
Studijų sritis	Fiziniai mokslai
Studijų kryptis	Gamtinė geografija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Antroji
Studijų forma (trukmė metais)	Nuolatinė (1,5)
Studijų programos apimtis kreditais	90
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Fizinių mokslų magistras
Studijų programos įregistravimo data	2008-04-01, No. ISAK-1444

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Marine Hydrology</i>
State code	6211CX019, 621F80001
Study area	Physical sciences
Study field	Physical Geography
Type of the study programme	University Studies
Study cycle	Second
Study mode (length in years)	Full-time (1,5)
Volume of the study programme in credits	90
Degree and (or) professional qualifications awarded	Master in Physical sciences
Date of registration of the study programme	2008-04-01, No. ISAK-1444

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The Centre for Quality Assessment in Higher Education

CONTENTS

I. INTRODUCTION.....	4
1.1. Background of the evaluation process.....	4
1.2. General.....	4
1.3. Background of the HEI/Faculty/Study field/ Additional information.....	5
1.4. The Review Team.....	5
II. PROGRAMME ANALYSIS	6
2.1. Programme aims and learning outcomes.....	6
2.2. Curriculum design	7
2.3. Teaching staff	8
2.4. Facilities and learning resources	9
2.5. Study process and students' performance assessment.....	10
2.6. Programme management	10
III. RECOMMENDATIONS*	12
IV. SUMMARY	13
V. GENERAL ASSESSMENT	14

I. INTRODUCTION

1.1. Background of the evaluation process

The evaluation of on-going study programmes is based on the **Methodology for evaluation of Higher Education study programmes**, approved by Order No 1-01-162 of 20 December 2010 of the Director of the Centre for Quality Assessment in Higher Education (hereafter – SKVC).

The evaluation is intended to help higher education institutions to constantly improve their study programmes and to inform the public about the quality of studies.

The evaluation process consists of the main following stages: 1) *self-evaluation and self-evaluation report prepared by Higher Education Institution (hereafter – HEI)*; 2) *visit of the review team at the higher education institution*; 3) *production of the evaluation report by the review team and its publication*; 4) *follow-up activities*.

On the basis of external evaluation report of the study programme SKVC takes a decision to accredit study programme either for 6 years or for 3 years. If the programme evaluation is negative such a programme is not accredited.

The programme is **accredited for 6 years** if all evaluation areas are evaluated as “very good” (4 points) or “good” (3 points).

The programme is **accredited for 3 years** if none of the areas was evaluated as “unsatisfactory” (1 point) and at least one evaluation area was evaluated as “satisfactory” (2 points).

The programme **is not accredited** if at least one of evaluation areas was evaluated as "unsatisfactory" (1 point).

1.2. General

The Application documentation submitted by the HEI follows the outline recommended by the SKVC. Along with the self-evaluation report and annexes, the following additional documents have been provided by the HEI before, during and/or after the site-visit:

No.	Name of the document
1	Organisational structure of the Klaipeda University
2	Performance indicators of the program staff (<i>h-index</i>)

1.3. Background of the HEI/Faculty/Study field/ Additional information

Klaipėda University (KU) was established October 5, 1990. The main aims of KU are scientific and educational quality development and efficiency, integration into the international academic activities and continuous development in marine researches field.

KU has a well-developed three-cycle study system: 58 undergraduate study programmes, 1 special professional study programmes, 57 graduate study programmes, and 10 post-graduate study programmes (including one in the study field of Ecology). The University presently has nearly 5,000 students and over 500 professors, associate professors, lecturers, and assistants. The number of KU graduates exceeds 31,000.

The Klaipėda University consists of 5 Faculties (Marine Technologies and Natural Sciences (MTNSF), Humanities and Educational Sciences, Social Sciences, Health Sciences, and the Academy of Arts), Institute of Continuing Studies, Research Institute of Baltic Region History and Archaeology and other structural units: Open Access Centre for Marine Research, Library, Botanic Garden, Publishing Office, and two ships for research and study purposes.

The Physical Geography studies are closely linked with the Klaipėda University maritime theme. Physical Geography programs associated with the purposes of Klaipėda University and preparation of marine professionals. Klaipėda University is lead of the Lithuanian integrated marine science, studies, and business centre (valley) that aims are to establish a nucleus of maritime knowledge economy by concentrating territorially scattered and functionally non-integrated academic marine research-oriented institutions and their divisions, to optimize institutional co-operation by means of the development of the common infrastructure, and to create conditions for a closer interrelationship of the marine research, studies, and business.

The Physical Geography studies are concentrated in the Department of Natural Sciences (till 2015 - the Geophysical Science Department) of Faculty of Marine technology and Natural Sciences (till 2015 - the Faculty of Natural Sciences and Mathematics).

1.4. The Review Team

The review team was completed according *Description of experts' recruitment*, approved by order No. V-41 of Acting Director of the Centre for Quality Assessment in Higher Education. The Review Visit to HEI was conducted by the team on *23 October, 2017*.

1. **Prof. Maris Klavins (team leader)**, *Professor of Department of Environmental Science, University of Latvia, Latvia;*
2. **Prof. Andrew Cooper**, *Professor of Coastal studies, School of Environmental Sciences, University of Ulster, Ireland;*
3. **Prof. Dr. Adam Weintrit**, *Professor of the Faculty of Navigation, Gdynia Maritime University, Poland;*
4. **Dr. Christiane Weber**, *Senior researcher at CNRS DRCE, France;*
5. **Mr. Sakalas Gorodeckis**, *board member of Geography and the Geographical Society, Lithuania.*
6. **Mr. Dionyzas Šlimas**, *student of Kaunas University of Technology of Chemical engineering study programme.*

Evaluation coordinator – Miss Lina Malaiškaitė

II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

The aim of the study programme as formulated in the SER covers wide scope. The aim of the given programme is „to develop higher education practitioners and researchers who are able creatively apply the acquired knowledge about marine and coastal region natural processes, marine coastal researches, management, use and protection. Marine hydrology master program is created to acquire students’ competence of oceanology, structural and functional changes in the research and geosystem marine landscape context“. The aims of the study programme are in line with the position of Klaipeda University in Lithuania and needs of local society also considered possible future changes. The program aims and learning outcomes are publicly accessible and described in details in the SER and available on the webpage of the university.

The range and complexity of the learning outcomes are appropriate for the study field and level of the programme. Achievement of the intended outcomes corresponds to the preparation of specialists in the field of marine hydrology, marine coastal management, environmental management. The programme allows students to gain knowledge on physical processes of the sea, of coastal environmental problems and technological solutions to solve them, to develop skills needed in work at the marine environment, of climate change, of sea-air interaction, and natural resources management. The graduates of the study program will be able to use the newest geographical, geoinformation, marine and coastal region environmental, GIS and remote sensing research methods, has spatial system modelling basics, and also has skills of environmental planning and coastal zone engineering and management. During internship and other practices

students consolidate knowledge of physical geography, marine environment awareness and get new skills while working in the marine research vessels. Internship is essential to secure employment after graduation.

The programme is interdisciplinary. Links between the subjects and their sequence, together with the infrastructure available for the running of the study programme, promote the achievement of the programme's aims and the understanding and attainment of the intended learning outcomes within the duration of studies. The intended learning outcomes are consistent at both programme and subject levels. Good graduate reputations in the recently largely unsaturated labour market and graduate ability to find positions directly reflecting the education they have received can be seen as programme strength. Evidently the realisation of the TEMPUS project with the aim of unifying the aims and the learning outcomes of the programmes have significantly contributed at the improvement of the content of study program and thus training of specialists in the field of natural geography and oceanography.

Learning outcomes are well formulated and structured and the links with the content of specific study courses is evident. Learning outcomes corresponds to the demands of rapidly changing labour market and other professional and societal needs, and regular updating of the programme content and learning outcomes with respect to their appropriateness is done considering opinions of social partners. As an important tool in reaching this aim is the successful functioning of the programme committee, the strategic planning of its development and regular consultations with social partners.

2.2. Curriculum design

Generally the programme structure is in line with the Lithuanian legislative requirements and in the direction of meeting EU standards. Subjects of study (modules) are taught in a consistent manner, subjects and topics are not repeated, thus considering the logics behind the program development practices. The content of subjects (modules) corresponds (as seen from the SER) to the type and cycle of studies looking on the hydrology problems from perspective of research, but at the same time considering the actual problems. Expected learning outcomes are transparent and clearly reflect the programme content and ensure the distinctiveness of the Bachelor and Master programmes in Physical Sciences. The grading standards of the Master thesis pay attention to the evaluation criteria and the need to employ statistical analytical methods. The content of the programme corresponds to the latest academic and technological achievements. The curriculum takes into account the trends in the labour market and covers a wide range of transferable skills that will increase the employability of the graduates. In

submitted documents there are used two different translations of the Title of the MSc study programme: **Sea Hydrology** and **Marine Hydrology**. The University should decide to use one official translation to avoid misinterpretation.

The content of subjects (modules) and study methods enable to achieve the intended learning outcomes. The scope of the programme is sufficient to achieve the learning outcomes. But elective courses system is not quite clear: how the students can elect them, how they are combined to support intended learning outcomes, how lectures by international lecturers are integrated in the regular study process.

Expert team suggest to extend the master's studies to four semesters so that the curriculum takes into account more Internship (Outdoor practice). The main reason of such extension is related to need to develop research skills, especially in respect to field works, to gather empirical research materials as well as support development of working skills in required in labour market.

2.3. Teaching staff

The program is delivered by a over 20 staff members including Professors, Associate professors, lecturers and one assistant (a PhD student). There is a good mix of levels of experience and a good gender and age balance which suggests long-term sustainability of the programme. The number and qualifications of academic staff clearly meet legal requirements. Staff are very well qualified to deliver the learning outcomes and their research shows a clear link to their teaching responsibilities. Particularly noteworthy is the extent to which international experts are engaged in the study programme via delivery of courses during intensive, short-period teaching visits. This ensures more content in the English language and exposes the students to a wide range of expertise and experience beyond that of the full time university staff. Similarly, part-time staff from other organisations and facilities of the Marine Studies Centre and Open Access Centre enhance the teaching staff profile. Good use is made of personnel from local marine organisations including social partners. A good relationship between staff and social partners was confirmed by social partners themselves.

There is a high level of engagement in EU, regional (Baltic Sea), bilateral and National research projects as the staff take advantage of their location on the Baltic Sea coast. Good use is made of opportunities for staff to travel to conferences and training events via University and Erasmus funding sources. Most staff have an active publication record including ISI journals and a good level of conference outputs. Four staff have H indices over 20, 3 between 10 and 20 while the rest are below 10. These indicators reflect a vibrant research culture that enhances the course

content and delivery. It suggests that appropriate support is provided to staff to engage in these research activities. The unevenness of output mentioned in the previous evaluation Report (2011) is much less evident.

2.4. Facilities and learning resources

The Master Science program is managed by the Faculty of Marine Technology and Natural Sciences, which occupies one 3-4 story historic building in the Klaipėda University camp and has some classes at other buildings. This faculty located at this building has four departments and separately the Center for Marine Science and Technologies. The MSc program owner the Department of Natural Sciences recently has physical resources for studies run as the equipped my modern multimedia auditoriums and the classes designed for natural science related works. The classes are 20-30 seats size and sure fit for recent graduating students numbers.

All premises and classes are connected to the Wi-Fi available for the staff and the students. Connection to the Lithuanian academic network is available. At the faculty are few computers classes available for students, whose could use own laptops as well. The up-to-dated licensing of computers software is maintained by University Computer Centre. Adequate number of licensed special software is available. The laboratory equipment is quite adequate for studies at the MSc level although the laboratories themselves could be small for the number of students following the program and the equipment age related to the chemistry works could be more fresh. Other premises and study facilities are generally adequate, both in size and quality.

The studies program includes some field and professional practices, whose are organized mostly using the University facilities. There are opportunities to use much improved within last few years Open Access Centre for Marine Research, the subdivision of Klaipėda University, which aim is facilitate the science and business cooperation through high level scientific and technological research. Three ships belonging to this centre are available for practices during studies program. There is newly build ship “Mintis“, a modern laboratory of marine research capable to service multipurpose marine research. Some part of practices is held at Ventė coastal field station, which belongs to the University partner, the Laboratory of Hidrobiological research of the state Nature Research Centre. The library of Klaipėda University has main premises location and the subdivision at faculty building, where is available main literature source for this program. The library maintains now online catalogues only. The faculty subdivision provides free access to the subscribed databases and availability of full text journals. Since last evaluation visit the library has acquired ca 700 publications complying the program needs. The Department of Natural Science keeps different kind of maritime and geographical atlases, whose are

available for student works. So teaching materials are good enough, adequate and accessible for this programme students.

2.5. Study process and students' performance assessment

Entrance requirements are clearly formulated and support application possibilities for students with differing study background at the BSc level. The organization of the study process ensures an adequate provision of the programme and the achievement of expected learning outcomes. Organisation of the study process is well functioning also considering small number of students and close relations between staff and students. Independent learning, practice and student research feature strongly in the programme. Practical training is well managed, but there is request from students, that more hours should be allocated, possible adding yet one semester. The importance of practice placements (internships, apprenticeships) in the curriculum has already been noted; students acquire valuable practical experience, improve their research skills and establish contacts with future employers. Graduates demonstrate their acquisition of knowledge and skills in their progression to further studies and professional employment; the great majority of graduates meet or exceed the programme provider's expectations.

The delivery of most study courses in the English language is a significant contribution towards increasing the programme's quality and its internationalisation. Despite the undoubted difficulties this currently presents for some students a challenge, the student view is that the positives outweigh the negatives and they strongly support this development in the programme. During their studies, they are able to take up exchange opportunities within the Erasmus scheme and the degree programme is more attractive to incoming exchange students. Students receive clear and timely information about delivery of the programme and the assessment of their performance. Students understand the methods and procedures involved and have opportunities to discuss their own progress with the academic staff. The system of resolving areas of dispute by students and the provision of opportunities to repeat an academic subject appears to be functioning well. Procedures for preparing and defending the final thesis are clear and rigorous as judged by the opinions of the graduates and inspecting the thesis works. Assessment prompted no complaints from students.

2.6. Programme management

The Programme management clearly identified the responsibilities for the programme's administration and management. Formal documents are available for instance the description of internal quality assessment procedures for instance.

Regular Department meetings ease to provide information to participants and to handle possible needs of modifications in the SP. Some information is obtained through university internal quality assurance system regarding the lectures quality and interest by the students, however the process is not mandatory and students are not informed about the results of survey results. The internal quality assurance system is functioning relatively well. The stakeholders have also the possibilities to initiate some changes in current programme planning. The importance of relationships with stakeholders and students is of major importance, to identify the new competencies that lead to changes in study programs or the definition of new needs for specialists. This context the internal quality assurance is considered as a strategic tool for enhancing the SP development. Students need to be more involved in this development through regular procedures.

The webpage of the study program is informative and clear regarding the specificities of the study programme, however much more efforts should be taken to offer the possibilities to study in this study program and attract students. Presently program management is rather looking on the coastal regions of Lithuania rather than of the whole territory of the country.

III. RECOMMENDATIONS*

1. Major efforts should be taken to reduce the negative trend in respect to decreasing number of student enrolment, addressing both international students as well as students from the whole territory of Lithuania
2. Review the formulation of expected learning outcomes so that they clearly reflect the programme content and ensure the distinctiveness of the Bachelor and Master programmes in **Physical Sciences** is transparent.
3. Continue to review the curriculum so as to follow trends in the labour market and incorporate an overt range of transferable skills that will enhance the employability of graduates from the programme.
4. Continue to improve the learning resources, particularly with regard to projected investments in the physical infrastructure, and extend the investments to include library resources, especially academic books, monographs, course textbooks and key texts in the English language.

IV. SUMMARY

The Master study program „*Marine Hydrology*” is needed from perspective of national and regional labour market and corresponds to strategic interests of Lithuania as a maritime country. Program aims well fit to the position allocated for the Klaipeda University in the context of the place of the university in the national higher education space. The range and complexity of the learning outcomes are appropriate for the study field and level of the programme. The programme allows students to gain knowledge on physical processes of the sea, of coastal environmental problems and technological solutions to solve them, to develop skills needed in work at the marine environment, of climate change, of sea-air interaction, and natural resources management.

Most staff have an active publication record including ISI journals and a good level of conference outputs. Specialists in the field of Marine Hydrology are in demand in the labour market. During last decade significant progress has been achieved considering the development of the research and study infrastructure. The program management have a clear vision on the development of the program. Positively can be evaluated direction towards internationalisation of the study program, offering study courses in English language, attracting lecturers from abroad. Intensive attraction of leading Lithuanian scientists as well as internationally acknowledged experts from foreign countries also could be appreciated.

However during last years a significant decrease of number of students also has happened. The problem is identified and necessary steps are taken to revert this negative trend, however the efforts in this direction should be continued.

V. GENERAL ASSESSMENT

The study programme *Marine Hydrology* (state code - 6211CX019, 621F80001) at Klaipėda University is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Teaching staff	4
4.	Facilities and learning resources	3
5.	Study process and students' performance assessment	3
6.	Programme management	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.

Grupės vadovas: Team leader:	Prof. Maris Klavins
Grupės nariai: Team members:	Prof. Andrew Cooper
	Prof. Dr. Adam Weintrit
	Dr. Christiane Weber
	Mr. Sakalas Gorodeckis
	Mr. Dionyzas Šlimas

**KLAIPĖDOS UNIVERSITETO ANTROSIOS PAKOPOS STUDIJŲ PROGRAMOS
JŪRŲ HIDROLOGIJA (VALSTYBINIS KODAS - 6211CX019, 621F80001) 2017-11-22
EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-208 IŠRAŠAS**

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Klaipėdos universiteto studijų programa *Jūrų hidrologija* (valstybinis kodas - 6211CX019, 621F80001) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	3
3.	Personalas	4
4.	Materialieji ištekliai	3
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

Magistro laipsnio studijų programa *Jūrų hidrologija* yra reikalinga turint galvoje nacionalinę ir regiono darbo rinką bei atitinka Lietuvos kaip jūrų valstybės strateginius interesus. Programos tikslai gerai atitinka Klaipėdos universitetui skirtą vietą nacionalinės aukštojo mokslo erdvės kontekste. Studijų rezultatų spektras ir kompleksiskumas tinka studijų krypties ir studijų programos lygmeniui. Programa leidžia studentams įgyti žinių apie jūrose vykstančius gamtinius procesus, pakrančių aplinkosaugos problemas ir technologinius jų sprendimo būdus, ugdyti gebėjimus, reikalingus norint dirbti jūrų aplinkosaugos, klimato kaitos, jūrų ir oro sąveikos bei gamtinių išteklių valdymo srityse.

Dauguma personalo narių aktyviai publikuoja darbus, įskaitant ISI žurnalus, bei dalyvauja konferencijose. Jūrų hidrologijos srities specialistai yra labai paklausūs darbo rinkoje. Per pastarąjį dešimtmetį padaryta reikšminga pažanga mokslinių tyrimų ir studijų infrastruktūros plėtros srityje. Programos vadovybė turi aiškią viziją, kaip programa turėtų būti plėtojama ateityje. Teigiamai vertintinos pastangos siekiant didesnio programos tarptautiškumo, t. y. studijų dalykai anglų kalba, lektorių iš užsienio pritraukimas. Reikėtų aktyviai stengtis pritraukti ir žinomiausių Lietuvos mokslininkų bei tarptautiniu mastu pripažintų ekspertų iš užsienio šalių.

Deja, per pastaruosius metus gerokai sumažėjo studentų skaičius. Problema identifikuota ir imamasi veiksmų šiai neigiamai tendencijai sustabdyti, tačiau pastangas reikėtų toliau stiprinti.

<...>

III. REKOMENDACIJOS

1. Reikėtų dėti visas įmanomas pastangas sušvelninti neigiamą stojančiųjų skaičiaus mažėjimo tendenciją ir pritraukti tiek užsienio studentų, tiek studentų iš visos Lietuvos.
2. Pakoreguoti siekiamų studijų rezultatų formuluotę, kad studijų rezultatai aiškiai atspindėtų programos turinį, ir užtikrinti aiškų skirtumą tarp **fizinių mokslų** srities bakalauro laipsnio ir magistro laipsnio studijų programų.
3. Toliau koreguoti studijų programos turinį, kad jame atspindėtų darbo rinkos tendencijos, įtraukti aiškius perkeliamuosius įgūdžius, dėl kurių pagerės studijų programos absolventų galimybės įsidarbinti.
4. Toliau gerinti mokymosi išteklius, ypač turint galvoje prognozuojamas investicijas į fizinę infrastruktūrą, išplėsti investicijas apimant bibliotekos išteklius, ypač skiriant lėšų akademinėms knygoms, monografijoms, dalykų vadovėliams ir svarbiausiai literatūrai anglų kalba.

<...>

Paslaugos teikėjas patvirtina, jog yra susipažinęs su Lietuvos Respublikos baudžiamojo kodekso 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

Vertėjos rekvizitai (vardas, pavardė,
parašas)