STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Klaipėdos universiteto

HIDROLOGIJOS IR OKEANOGRAFIJOS PROGRAMOS (612F80002)

VERTINIMO IŠVADOS

EVALUATION REPORT

OF *HYDROLOGY AND OCEANOGRAPHY* (612F80002)

STUDY PROGRAMME

at Klaipeda University

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Išvados parengtos anglų kalba
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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Hidrologija ir okeanografija***
Valstybinis kodas	612F80002
Studijų sritis	Fiziniai mokslai
Studijų kryptis	Gamtinė geografija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (4)
Studijų programos apimtis kreditais	160
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Gamtinės geografijos bakalauras
Studijų programos įregistravimo data	2001-08-02 Nr. 1187

INFORMATION ON ASSESSED STUDY PROGRAMME

Name of the study programme	***Hydrology and Oceanography***
State code	612F80002
Study area	Physical Sciences
Study field	Physical Geography
Kind of the study programme	University studies
Level of studies	First cycle
Study mode (length in years)	Full-time (4)
Volume of the study programme in credits	160
Degree and (or) professional qualifications awarded	Bachelor of Physical Geography
Date of registration of the study programme	2001-08-02 No. 1187

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I. INTRODUCTION

The external evaluation of the Bachelor study programme in *Hydrology and Oceanography* at Klaipėda University (hereafter, the University) was initiated by the Centre for Quality Assessment in Higher Education of Lithuania nominating the international expert group formed by Professor Geoffrey Robinson (University of St. Andrews, Scotland – team leader), Professor Tommi Inkinen (University of Helsinki, Finland), Professor Maris Klavins (University of Latvia, Latvia) and Dr. Miglė Stančikaitė (Institute of Geology and Geography of Nature Research Centre, Lithuania).

The evaluation of the study programme (hereafter, the programme) made use of the following documents: Law on Research and Higher Education of the Republic of Lithuania (2009); Order on External Evaluation and Accreditation Procedure of Study Programmes (2011); Methodology for Evaluation of Higher Education Study Programmes (2010); General Requirements for Undergraduate and Integrated Studies Programmes (2010); and Geography Study Field Regulation (2004).

The basis for the evaluation of the study programme is the Self-Assessment Report, written in 2011, its annexes and the site visit of the expert group to the University on 14 October 2011. The Geophysical Science Department (hereafter, the Department), located in the Faculty of Natural Sciences and Mathematics (the Faculty), is directly responsible for the programme, overseeing its delivery and monitoring. The site visit incorporated all required meetings with different groups: the administrative staff of the Faculty, staff responsible for preparing the self-assessment documents, teaching staff, students of all years of study, graduates, and employers. The expert group inspected various support facilities and resources (classrooms, laboratories, library, computer facilities), examined students' final works, and various other materials.

After discussions and preparations of conclusions and remarks, the expert group presented introductory general conclusions of the visit to the Department's self-assessment team. The group subsequently met to discuss and agree the content of the report, which represents the members' consensual views.

(It may be noted that both the Bachelor and Master programmes in Physical Geography are located in the same department within the same faculty. They share the same facilities; the same staff contributes to both programmes, albeit with different loadings; administration and management are essentially the same for both programmes; and employers who met with the evaluation team related to both programmes and interacted at department and faculty levels. The site visit covered both programmes simultaneously and, inevitably, the two evaluation reports have much in common.)

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The programme aims to prepare science professionals in the fields of hydrology and oceanography. In this, the programme fits nicely with the Department's involvement in major research and development projects to promote the region and the nation as viable maritime entities.

The programme aims are consistent with the type and level of studies, the title of the programme, and the level of qualifications offered. The learning outcomes have been formulated to take account of academic and professional requirements, public needs and the needs of the labour market. Both the formulated programme aims and learning outcomes are ambitious. The aims are closely related to the regional and national development plans to develop the rational use of natural (marine) resources. Klaipėda University is considered to be a main actor in the preparation of specialists in marine issues. The study plans are therefore of definite national importance and the formulation of programme aims and expected learning outcomes considers national needs. Future prospects are closely linked with the actual and projected developments of the Maritime Valley. The opportunities to improve the infrastructure used for studies and research offered by this major development have greatly enthused the programme and Faculty administrative staff.

The learning outcomes cover major areas of skills and knowledge needed to further the projected regional and national developments. They include scientific skills that are required in the labour market and needed to start a research career. The experts, however, encountered a serious problem in evaluating the learning outcomes in the self-assessment report and in discussions with the programme staff. The wording of the learning outcomes has not translated well into English and their meaning is unclear. Even in the original Lithuanian, however, they inadequately reflect the actual content of the study programme. On the one hand, during the evaluation visit, it became evident that lecturers are trying to formulate clear learning outcomes for the various courses. On the other hand, the formulations given in the self-assessment report are very general and not so easy to relate to the specific knowledge and skills acquired through a study course.

The experts also noted that 75 per cent of the expected learning outcomes are repeated in the Department's related Masters programme. It was understood that the Masters programme is expected to deepen scientific knowledge and develop higher-level skills. The experts would encourage, however, a clearer match of outcomes to programme content and more transparent distinctiveness between the content and outcomes of this Bachelor programme and the related Masters programme.

Another problem relates to the acquisition of other skills that are needed in the labour market. These are the generic or transferable skills that would probably increase the competiveness of graduates in the labour market. Judging by its content, the programme is overly concerned with preparing professional scientists. In reality, a research career will provide employment for only a proportion of graduates from the programme. Only 23 per cent of Bachelor graduates proceed to employment or further studies in fields related to the programme, albeit that most of the students who met with the expert team expressed a wish to proceed in due course to further studies. The Maritime Valley, which is so important to regional and national developments, is a major project promoting interrelationships among marine research, studies and business. For graduates with scientific knowledge and well-developed transferable skills, employment opportunities are likely to open up in areas of applied science and in entrepreneurial and other business activities. Employers formerly singled out the need for greater practical ability and the experts were pleased to note that this is already being addressed in programme planning – i.e. more practical content and placements, with learning outcomes expressed in acquisition of skills complementary to the knowledge of graduates. Continuing attention to the study programme's

learning outcomes should regularly follow changes in the labour market and consideration of development trends, especially as some parts of the market become saturated while new opportunities arise. More sharing of some of these considerations with the Human Geography programmes could also help in preparing all the Department's graduates for a successful transition into employment.

Main strengths and weaknesses

Strengths

The programme's great strength largely derives from its uniqueness in the Baltic states. This contributes to its definite and growing national and regional importance. The programme's aims and outcomes align with national and regional plans for the rational development of marine resources. They are regularly updated and enhanced.

Employers collaborate in programme development. Responsiveness to developing employment needs is demonstrated by the fact that awareness of the need for graduates to be more practically able has already led to some changes in expected learning outcomes. Close monitoring of trends in the labour market should ensure that programme developments keep pace with those changes; this will entail increased attention to the acquisition of transferable skills.

Weaknesses

The programme aims are well defined and clear but the learning outcomes are less well formulated, do not always reflect the programme content, and lack transparency in the distinctiveness of the Department's Bachelor and Master programmes in Physical Geography.

2. Curriculum design

The curriculum complies with the requirements of national legislation and conforms to the general aims of university education to train Physical Geography Bachelor-level graduates in hydrology and oceanography. Also delivered in accordance with the legal requirements are a proportion of general education study courses. The study content and the student workload are spread evenly within the timetable, the courses are not repetitive and their contents are consistent with the level of Bachelor studies. Important to the acquisition of requisite skills are practical studies; the proportion of the programme they represent as well as the resources available for those studies have improved during recent years.

The curriculum design process is well organised, benefits from close cooperation with major stakeholders and considers the national development trends. The process includes participation by staff and students, at the same time considering suggestions of other major stakeholders. Especially important are the views of employers and professional scientists, in the context of cooperating with research institutes and other bodies. The programme content reflects current trends in hydrology and oceanography; lecturers' research activity contributes to the regular updating of the curriculum and the content of specific courses.

The content and methods of the study courses are appropriate for the achievement of the intended learning outcomes, especially with the already noted strengthening of students' practical experiences. Additionally, the preparation of the self-assessment report has raised awareness of the need for further improvements in the programme and its design process. Of particular note was the valued contribution of students to the self-assessment and recognition of

the need to garner student reactions to continuing programme developments more systematically. The curriculum, together with existing and anticipated employment opportunities, support the popularity of the programme amongst school leavers and ensure a relatively high competition for study places. As observed in considering the programme aims and outcomes, the further development of transferable skills and entrepreneurship would strengthen the curriculum.

Main strengths and weaknesses

Strengths

The curriculum design process takes cognisance of the needs and suggestions of all major stakeholders.

Lecturers' research activities are influential in ensuring that the curriculum reflects current trends in hydrology and oceanography.

The curriculum incorporates a growing proportion of practical work, valued both by students and employers.

Weaknesses

The curriculum would benefit from more overt incorporation of a range of transferable skills that would enhance the employability of graduates from the programme.

3. Staff

The number of academic staff and their qualifications meet legal requirements. They are more than adequate to enable the achievement of expected learning outcomes. Staff turnover is well managed and the running of the programme in respect of staff continuity seems to be sustainable.

The University provides help for the professional development of the teaching staff necessary for the delivery of the programme. The Faculty supports the development of research activities that, as noted above, are a positive influence on the curriculum. As a result, the overall performance of programme staff is good. Especially noteworthy is participation in EU Framework (usually some four projects are running), Interreg and other projects. Close cooperation with the Coastal Research and Planning Institute, an EU centre of excellence, helps to raise academic standards. Staff qualifications are continuously improving with the aid of support given to younger staff to complete their doctoral dissertations. Participation in the BONUS programme and summer schools contributes significantly to the research performance of staff. The University supports conference attendances by the staff and other funds to raise the level of research activities are also available. Publications in international and local journals are at a reasonable general level. Their attributions amongst the staff, however, are very uneven. There are a few evident leaders in research with a very good record of publication; other staff members' performance is modest. This situation needs to improve. There are salary incentives to raise the individual level of scientific activity but huge teaching loads are cited as a major obstacle to progress in this direction. It should be expected that every staff member undertakes research and publishes in a field related to the content of courses they teach. Students can reasonably expect to be taught by practitioners whose scientific activities inform their classes. This is generally but not always the case.

The University also promotes acquaintance with and, as appropriate, the adoption of new teaching and learning methods. Lecturers are encouraged to attend training courses to improve

their pedagogical skills. There is evidence that the programme is benefiting from staff's participation in such courses. International exchanges and visiting lecturers also contribute informally to the staff's professional development. There remains a considerable shortfall, however, in the professional development of staff in teaching and learning in accordance with the various European trends, guidelines and agreements.

Already noted is the importance of practical knowledge and skills amongst the programme learning outcomes. The staff enjoys close and growing relationships and cooperation with private companies and other social partners, such as research institutes and state agencies, in ensuring the delivery of many of the programme's practical elements. The processes of keeping the programme up to date, viable and sustainable also benefit from these relationships.

Main strengths and weaknesses

Strengths

The programme is in the hands of an enthusiastic and well-qualified staff, which supports the quality of the studies and enables the achievement of the expected learning outcomes.

The staff's close relationships with local social partners positively contribute to the enhanced delivery of the programme's practical components.

The staff's general profile of research activity is good, further supporting the quality of studies. The general profile reflects in particular the contributions of some very active research leaders.

Weaknesses

Participation in research activities by some members of staff is very limited and professional development in teaching and learning is far from meeting EU standards.

4. Facilities and learning resources

The physical resources available for studies have greatly improved since the 2007 evaluation of other programmes in the Faculty. The improvements, which are clearly at a transitional stage, are primarily the result of taking opportunities provided by the University's participation in the Maritime Valley development. At present, laboratory equipment is adequate for studies at the Bachelor level although the laboratories themselves are small for the number of students following the programme. Other premises and study facilities are generally adequate, both in size and quality. The computer classrooms and software available within the Faculty and elsewhere in the University suffice for the achievement of learning outcomes.

Arrangements for students' practice are good. Of particular note are opportunities for practical experience on the Department's research and training vessels, especially the schooner *Brabanderis*. Recently increased emphasis on practical training is greatly appreciated by students and welcomed by professional partners. These provide many practice placements, short-term apprenticeships and access to specialist equipment and facilities, which broaden students' choice of thesis topic; effectively, the use of facilities elsewhere in the University and cooperation with research institutes and departments of state agencies, for example the marine research Department of the Ministry of Environment, provides cover for the present gaps in the Department's own provision. The Department is involved in development projects and investment plans that are expected to close those resource gaps.

Library resources do not satisfy student requirements, particularly in the provision of course textbooks. A specific aspect of this inadequate provision is the small holdings of key texts in the English language; this offers poor support for the decision of Senate that from the 2009-10 academic year, courses being followed by visiting Erasmus students and home students should be delivered in English. Although the availability of full-text electronic databases is admirable, it cannot satisfy all needs; the absence of references to electronic sources in student theses indicates that the databases are not playing their expected role in learning. It is notable that the student survey for the 2010-11 academic year identified laboratory and library resources as the programme's greatest weaknesses.

Main strengths and weaknesses

Strengths

Improvements in the physical resources have already accompanied the University's participation in the Maritime Valley development. Continuing involvement has led to investment plans and procurement procedures to strengthen further the research and learning infrastructure.

The programme benefits from excellent arrangements for student practices, especially as a result of cooperation with research institutes and other professional partners.

Weaknesses

Library resources have particular weaknesses; the availability of course textbooks and the holdings of key texts in the English language are inadequate.

5. Study process and student assessment

The admission requirements are well founded and ensure the recruitment of good students. The student admission process is well organised. Applications have been reasonably stable over recent years and at the same time the students' entry qualifications have been rising. The organisation of the study process ensures an adequate provision of the programme and the achievement of expected learning outcomes. Independent learning, practice and student research feature strongly in the programme; lecturers encourage early involvement of students in research projects. Close cooperation with research institutes is important in this respect. Graduates who have proceeded to Master's studies have demonstrated that they have successfully learned the requisite knowledge and skills for further studies and lifelong learning. Others who have gone into professional employment show they have benefited in the same ways from their experience of the study programme.

Students receive clear and timely information about delivery of the programme and the assessing of their performance. They understand the methods and procedures involved and have opportunities to discuss their own progress with the academic staff. Assessment methods are diverse, with accumulative evaluations playing a significant role. Open seminars are used as one means of evaluating knowledge, and activities such as the recording of student reports are innovative. The system of resolving areas of dispute by students appears to be functioning well. Assessment prompted no complaints from students and there were no areas of major concern for the external evaluation team. One aspect that puzzled the experts, however, was the grading of theses. Almost all received high marks in contrast to the more normal distribution that characterised academic performance overall, but this seems to be a feature of all other Lithuanian geography programmes that the team reviewed. The credits for the thesis are only a small

proportion of those for the whole programme but the associated activities are important elements in the acquisition of requisite skills. The programme team could usefully consider the appropriateness of the statistical methods employed by almost all the students to analyse the data sets that they collect.

Students receive good academic and social support and can call upon financial support for a variety of contingencies. Given the tight limits of the current financial situation, good attendance of students at summer schools indicates a high level of motivation in their studies. The Erasmus exchange programme also attracts some students; although there have been only two participants from the programme in each of the last two years, seven will take part in the current year.

Main strengths and weaknesses

Strengths

Recruitment to the programme is good; numbers are reasonably stable and entry qualifications have been rising.

Study processes are well organised and enable the achievement of the expected learning outcomes, with practice playing an increasingly important part.

The assessment system is clear, well understood by students and has some innovative features.

Students appear to be well supported, academically, socially and, within present constraints, financially; they presented to the evaluation team as generally happy, enthusiastic and well motivated.

6. Programme management

Both strategic planning and every-day concerns are handled at Department level. The Head of the Department has immediate responsibility for the programme's administration and operation. Changes entailed by programme planning and development are described as collegial, the result of regular Department meetings. The concerns of all stakeholders are considered, including employers and other social partners. Student views are taken into account in programme planning; examples of recent student-initiated changes are an increased mathematics content and more practical experience provided in the programme. And students' requests for additional experience of remote sensing, more optional GIS modules and the integration of more GIS into other subject exercises are highlighted in current programme planning.

The membership and responsibilities of the relevant Commissions operating at the two higher levels of the management structure, Faculty and University, are clearly articulated. These Commissions appear to support well the programme's organisation and implementation. Among the considerations are efficient cooperation with research institutes and other social partners, fundraising activities and plans for development and investment. The University's participation in the Maritime Valley and other projects can be seen as a strong influence on planning that is already impacting on programme developments.

The University has developed an effective new internal quality assurance system over the past five years. Each of the three management levels have clearly assigned roles in periodic review and monitoring processes. Of great help for programme improvement are students' opinions about the quality of studies and the objectivity of assessments. Data has been collected over the

last six years in a web-based survey system. This has allowed the monitoring of the content and teaching of particular courses and led to appropriate corrections. Additionally, improvement of the programme considers the outcomes and recommendations of previous internal and external review exercises. Already articulated are lessons learned from the self-assessment exercise that began this external evaluation.

Main strengths and weaknesses

Strengths

Programme management at Department level is collegial and effective.

Faculty and University levels of the management structure support well the programme's organisation and operation.

Management of the University's participation in regional projects is already a component of strategic planning that affects programme developments.

Students' opinions are valued at all levels of the planning and quality-assurance systems and help to improve the running of the programme.

III. RECOMMENDATIONS

1. Review the formulation of expected learning outcomes so that they clearly reflect the programme content and ensure the distinctiveness of the Department's Bachelor and Master programmes in Physical Geography is transparent.
2. 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.
3. Encourage and facilitate participation in research activities by all members of staff and raise their level of professional development in teaching and learning in the direction of meeting EU standards.
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 course textbooks and key texts in the English language.

IV. GENERAL ASSESSMENT

The study programme Hydrology and Oceanography (state code – 612F80002) is given **positive** evaluation.

Study programme assessment in points by fields of assessment.

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Staff	3
4.	Material resources	3
5.	Study process and assessment (student admission, study process student support, achievement assessment)	4
6.	Programme management (programme administration, internal quality assurance)	4
	Total:	**20**

*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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Grupės nariai:
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