STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

KAUNO TECHNOLOGIJOS UNIVERSITETO PROGRAMOS *TAIKOMOJI MATEMATIKA* (612G10002) VERTINIMO IŠVADOS

EVALUATION REPORT OF *APPLIED MATHEMATICS* (612G10002) STUDY PROGRAMME AT KAUNAS UNIVERSITY OF TECHNOLOGY

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Išvados parengtos anglų kalba
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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	Taikomoji matematika
Valstybinis kodas	612G10002
Studijų sritis	Fiziniai mokslai
Studijų kryptis	Matematika
Studijų programos rūšis	Universitetinės
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (4), ištęstinė (6)
Studijų programos apimtis kreditais	240 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Matematikos bakalauras
Studijų programos įregistravimo data	1997-05-19

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	Applied Mathematics
State code	612G10002
Study area	Physical sciences
Study field	Mathematics
Kind of the study programme	University studies
Study Cycle	First
Study mode (length in years)	Full-time (4), part time (6)
Volume of the study programme in credits	240 ECTS
Degree and (or) professional qualifications awarded	Bachelor of Mathematics
Date of registration of the study programme	1997-05-19

CONTENTS

I. INTRODUCTION

This report summarizes the observations of the expert team (Team) based on the analysis of documents prepared by the self-assessment group consisting of eight members of KAUNAS UNIVERSITY OF TECHNOLOGY (KTU) and the information obtained from the interviews during the visit at the KTU on October 10, 2012.

Schedule for the visit:

The members of the Team acquainted themselves with and assessed the documentation and annexes provided by the Lithuanian Centre for Quality Assessment in Higher Education (CQAHE) in Vilnius.
On October 08, 2012, an introductory meeting at CQAHE was arranged and the following topics were presented:

1. Brief overview of CQAHE
2. Higher Education Evaluation System in Lithuania
3. Study Programmes Evaluation and Accreditation
4. Methodological Guidelines. Visits. Final Reports

The following schedule for the visit at KTU has been prepared and executed:

Tuesday, October 10, 2012	
09.00 – 09.30	Meeting with administration staff
09.30 – 10.30	Meeting with staff responsible for the preparation of the Self-Assessment Report (SAR)
10.30 – 10.45	*Coffee break*
10.45 – 11.30	Meeting teaching staff
11.30 – 12.15	Meeting with students
12.15 - 13.15	*Lunch*
13.15 – 14.00	Visiting auditoriums, libraries, other facilities (studios, teaching spaces, computer services etc.)
14.00 – 15.00	Review of students‘ course and final papers (thesis)
15.00 – 15.30	Meeting with alumni
15.30 – 16.00	Meeting with employers and social partners
16.00 – 16.30	Experts private discussion and finalization of the visit
16.30 – 16.50	Introduction of general remarks of the visit to Kaunas University of Technology community

The Team would like to thank the authorities of KTU for their friendly welcome and hospitality. We also want to express our appreciation to the various representatives of KTU, who actively participated in the meetings and considerably contributed by their open discussions to a good overview of the institution.

Last but not least we want to thank Mrs. Agnė Tamošiūnaite from CQAHE for her friendly way of maintaining contact with us, for preparing the visit so well and assisting us during our stay in Lithuania.

II. PROGRAMME ANALYSIS

Kaunas University of Technology (KTU) is a public university which was founded initially as a centre for studies on January 27, 1920. In 1922 the Government of Lithuania passed a resolution on establishing a university, the first independent higher education institution in Lithuania based on the centre. Today KTU is the largest technical university in the Baltic States. It consists of 13 faculties, 73 departments as well as several centres, institutes, research laboratories and an International Studies Centre.

The Bachelor Study Programme „Applied Mathematics“ is organized by the Faculty of Fundamental Sciences consisting of the Departments of Applied Mathematics, Mathematical Research in Systems and Physics.

1. Programme aims and learning outcomes

The framework for qualifications for the European Higher Education Area (EHEA) defines learning outcomes as statements of what a learner is expected to know, understand and/or be able to do at the end of the period of learning.

The Bachelor Study Programme “Applied Mathematics“ has clearly defined its mission in the Lithuanian economy and society. It is designed for the preparation of specialists with good mathematics and computer science backgrounds, and able to deal with the challenges of mathematics applications in various areas. The focus of the Programme is on application of mathematics, interdisciplinary studies, and a wide range of applications of information technology. According to several recent studies well-educated mathematicians and statisticians as well as engineers with a good education in mathematics will be the most sought after specialists in the coming years in highly industrialised countries.

According to the formulated learning outcomes of the programme Applied Mathematics the graduates are supposed to have knowledge and understanding of the basic concepts, definitions and proofs from major areas of mathematics and the ability to apply them to the solution of theoretical and real problems; have knowledge and understanding of a range of mathematical methods used to develop and analyse mathematical models; have knowledge of the main numerical methods; demonstrate a reasonable understanding of modelling principles; have knowledge and understanding of the theory of algorithms and programming etc. In addition, research abilities, subject specific abilities such as the ability to think logically and analytically, social abilities and personal abilities are included.

Strengths

- The programme Applied Mathematics has clearly defined its learning outcomes. It is designed for the preparation of specialists who can successfully work in the departments of modelling, design, and information analysis of a variety of companies and institutions. Graduates can also work in insurance companies and banks, and as security specialists, system analysts, market researchers, analyst-programmers, simulation and data analysis specialists, etc. or continue their studies for a master degree.
- The learning outcomes, content and qualifications offered in the Programme are compatible with each other. The Programme conforms to legal requirements.

Weaknesses

- The learning outcomes are specified only in the self-assessment report. They are not publicly available anywhere else.
- The title of the qualification "Bachelor of Mathematics" does not fully conform to the relevant learning outcomes and content of the programme. The applied mathematics content outweighs the pure mathematics and so the qualification should be "Bachelor of Applied Mathematics".

2. Curriculum design

The programme Applied Mathematics is on the bachelor's level. The standard period of instruction for this programme is four years. This is compliant with the Bologna declaration and Lithuanian legal requirements.

The Programme is subdivided into the following educational components:

- General subjects (15 ECTS)
- Core subjects (141 ECTS)
- Minor study field (54 ECTS)
- Practice (15 ECTS)
- Final degree project (15 ECTS)

The size of each educational component is 3 to 9 ECTS. The workload amounts to 240 ECTS credits. In the full time career (8 semesters) each semester covers 30 ECTS, in the part time career (12 semesters) semester 1, 2, 3, 4, 6, 8 and 10 cover each 18 ECTS, semester 5, 7 and 9 cover each 24 ECTS, semester 11 covers 12 ECTS and the final semester 12 covers 30 ECTS. The curriculum design for both study careers meets legal requirements.

Strengths

- The content of each educational component corresponds to the intended learning outcomes of that component. Size and content of nearly all educational components are appropriate.
- The level of instruction meets the requirements of a modern, internationally competitive education in applied mathematics. The content of the programme reflects in a great area of mathematics the latest achievements in science and technology.
- The Team found that the educational components of the programme cover most of the learning outcomes and contents that would be needed to educate an applied mathematician.
- The programme is very popular among the entrants.

Weaknesses

- Graduates of mathematics often have to model processes and apply methods of discrete mathematics and higher algebra. Knowledge of algebraic structures such as semigroups, groups and fields is essential for a broad field of applications. This part of mathematics seems not to be represented adequately in the curriculum.
- The sequence of courses is not correct in some cases e.g. Physics comes before Differential Equations, but students complained that the physics course required some knowledge of differential equations.
- The second semester of the curriculum seems to be “too heavy”, with too many subjects included. Some course focus on the width of the subject rather than on the depth.
- The sub-goal of the Programme to produce undergraduates who will have „abilities to develop software tools for real world objects ...“ is too pretentious. It should be softened to "abilities to develop computer programs for ...". This would comply precisely with the learning outcomes of the programme.
- The methods of instruction in the undergraduate programme are rather traditional. The Team does not find evidence that activating forms of learning and teaching are practiced. One way of engaging students to participate actively in the process of learning is to introduce elements of project-based learning. Everywhere in the world each mathematics course has two components. The first concerns the theoretical aspects of the course content – the key concepts and theorems. In the second component the students learn to apply the theory by tackling exercises and problems assigned by the teacher. This is a crucial part of the training of young mathematicians because they learn the subject by doing mathematics themselves and not by watching others doing it.

3. Staff

There are 100 teachers affiliated with the Programme.

Strengths

- The qualifications of the current academic staff are more than sufficient for achieving the aims and learning outcomes set for the Programme, and certainly meet the legal requirements. Indeed this department is academically quite strong with good support for post graduate work.
- Several professors do research together with the industrial and academic organizations in the regions (Lithuanian Energy Institute etc).
- There are grants for staff members to perform research and PhD-studies abroad.

Comment: The age distribution of the academic teachers of the programme will require replacing several retiring professors in the coming years. This will provide an opportunity to attract young academics with new ideas for teaching and learning, and to cover deficiencies with respect to teaching and research in higher algebra.

Weaknesses

- The teaching loads, especially for young teachers, are quite heavy. This may lead to poor quality teaching, low attendance at lectures, and will adversely affect the time available for research.
- Mobility of the teachers is quite low.
- Teachers were not open and not willing to disclose problems they face in the university (especially when asked about workloads).

4. Facilities and learning resources

The premises for studies and learning resources are adequate in size and quality.

All lecture rooms are equipped with the necessary furniture and basic didactic material. Projectors and computers for multimedia-based instruction are available.

However opening hours of the library are not long enough for students to study, especially on the weekends. Indeed the library closes at 7 p.m. on week days, and is closed on weekends.

5. Study process and student assessment

Students are admitted according to national regulations based on high school graduation results. Access to state financed places is competitive and has to meet minimum standards. Those not admitted to state funded places get access to the programme if they pay tuition on their own. Adequate arrangements for student practice exist.

Strengths

- The academic year is organized in two semesters. Timetables are scheduled rationally. The study classes are well distributed during the week and semester. With a few exceptions the sequence of the different courses follows a consistent and well-elaborated scheme.
- The examination sessions are carefully planned and fit well into the study programme.
- Graduates work in a wide variety of jobs. Most of the graduates are able to find a job corresponding to their qualifications. Some get employment with companies less focused on their respective specialisations.
- The graduates of the Programme and the employers of the graduates spoke very highly about the qualifications gained during the undergraduate course.
- The drop-out rate in recent years has been quite high but has improved from 48% in 2004-2008 to 22% in 2008-2012.
- Examination problems conform to the learning outcomes of the subject.
- Mobility of staff and students is not very high. However, the figures of both outgoings and incomings have improved during recent years.

Weaknesses

- Students are not critical and not open about the study process. In our meeting with them they were unwilling to discuss openly the quality issues of the study process.
- Student assessment material (examination papers) focuses exclusively on easy theoretical material and easy examples and problems. Course descriptions seem to promise more than is taught and examined.
- Sheets of paper for the examination are non-standard, rather brought by the students from home.
- Some course work papers are poorly written, with no introduction outlining the background to the problem under consideration, and sometimes no statement of the

problem at all. Strengthening this component would contribute to the scientific communication skills of the students.

- Goals of practice (internship) are defined inadequately. The Team could not find any clear instructions which kind of practice was desired by the curriculum.

6. Programme management

Strenghts

- Quality management structure is defined clearly in the internal documentation of the University.
- Stakeholders stated that they have some influence on the content of courses and the design of the curriculum.

Weaknesses

- Only a small percentage of the students fill out the questionnaires that assess the quality of the educational components and course management at the end of each semester. The dean’s office collects and evaluates the results. There is no clear information on consequences and supportive instruments designed to improve the quality of teaching and course management
- There is a lack of supportive instruments (e.g., training on teaching skills) in order to improve teaching.

III. RECOMENDATIONS

(The first number refers always to the corresponding section.)

1.1 The term "applied mathematics" is internationally recognised and specified regarding a certain subfield of mathematics. Hence, the awarded degree "Bachelor of Mathematics" should be renamed „Bachelor of Applied Mathematics". The current name of the degree is confusing and does not express clearly the knowledge of graduates.

2.1 The Team stresses that a certain knowledge of algebraic structures is essential to several applications of mathematics. The Faculty should consider providing for those elements in appropriate educational components and incorporating such material into the undergraduate degree programme. This would open wider fields of employability for graduates. The introduction of those elements may be accomplished by reducing the volume of other subjects.

2.2 One way of engaging students to participate actively in the process of learning is to introduce elements of project-based learning. Everywhere in the world each mathematics course has two components. The first concerns the theoretical aspects of the course content – the key concepts and theorems. In the second component the students learn to apply the theory by tackling exercises and problems assigned by the teacher. This is a crucial part of the training of young mathematicians because they learn the subject by doing mathematics themselves and not by watching others doing it.

2.3 It would be reasonable to concentrate as much as possible issues related to elements of programming languages and tools (MATHLAB, SAS et al.). Currently they are spread over several subjects, often apparently overlapping.

3.1 Teaching loads, especially of young staff, inside and outside the institution should be decreased and incentives set to give more attention to research. More full-time teachers should be attracted. Visiting professors, both on a national and international basis, should be invited (e.g. Fulbright scholarship professors). The possibility of study leaves and sabbaticals at universities abroad in order to exchange ideas on modern didactic methods as well as to perform research should be considered.

3.2 Several professors will be retiring within a few years. This will provide an opportunity to attract young academics with new ideas for teaching and learning and to cover deficiencies with respect to the teaching and research in discrete mathematics, algebra and computer mathematics.

4.1 Opening hours of the library should be extended so that students have better possibilities for studying there (student complaint).

5.1 Realistic and reasonable course descriptions should be agreed and examinations set at a level to guarantee the desired study outcomes. Students who do not know or understand the basic facts of a course must not be marked positively.

6.1. KTU should further enforce Quality Assessment and go ahead with the quality assurance procedures already under way. Quality assessment should not be considered as a burden but as an instrument for improvement. Hence the Team suggests that clear procedures to improve teaching and research should be defined based on feedback from students, extensively

collected information, and the results of different evaluations. The collected data should be used to provide advice. Mechanisms to support academic staff in their teaching (teacher training, teacher promotion) and research missions (study leaves, reduction of work load) should be developed.

6.2. Internationalisation is an essential element of higher education development. It is a multi-dimensional task taking into account mobility programmes, language policy, curricula, joint study and double degree programmes, collaborative research, conference attendance etc. Strengthen further the foreign languages policy by using more English text books and offering lectures in English . KTU and the Faculty of Fundamental Sciences should look for equal partners for student and teacher exchange and increase the incoming and outgoing mobility of both students and academic staff (Erasmus, special agreements).

6.3. Increase autonomous student work and self-learning components. (Students should not only “repeat” in practical classes and examinations what they have learned in lectures). Strengthen creativity and practical parts in your education. Make full use of e-learning platforms such as Moodle. Each week the teacher should distribute a set of exercises to the students; each student will work on finding solutions to the exercises, alone and possibly in collaboration with other students. A week later the students will discuss their solutions with the teacher.

6.4. Enforce and formalise contacts between the University and enterprises in order to integrate students into project work.

IV. SUMMARY

The bachelor degree programme “Applied Mathematics” at KTU meets the needs of the society and the Lithuanian and European labour market. It prepares specialists in the field of mathematics to work in many different fields of economy and industry as well as in scientific positions. Well-trained mathematicians are, and will become more and more, a key element in our IT-dominated world.

The high competence of KTU’s academic staff provides for the strength of the programme. However, the lack of experts in the field of finite algebraic structures as well as the lack of new didactic methods are obstacles to improving the programme. The age distribution of the academic teachers of the programme will require replacing several professors in the coming years. This will provide an opportunity to attract young academics with new research competences and new ideas for teaching and learning to KTU.

The modernisation of buildings and laboratory equipment is visible. The clear and well-designed curriculum of the programme enables most students to complete the programme within the standard period of studies. The dropout rate is high, but improving. Course descriptions and examinations should be adjusted to ensure mutual compatibility, with the studying process oriented towards in-depth study of the material, rather than a wide range of topics. Research and its international visibility should be strengthened. Students should be more integrated into project work. The results of the evaluation of the quality of courses and the study process administration should be more thoroughly analysed and discussed with the students.

V. GENERAL ASSESSMENT

The study programme *Applied Mathematics* (state code – 612G10002) at Kaunas University of Technology 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	**4**
2.	Curriculum design	**3**
3.	Staff	**4**
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:	**21**

*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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V. APIBENDRINAMASIS ĮVERTINIMAS

Kauno technologijos universiteto studijų programa *Taikomoji matematika* (valstybinis kodas – 612G10002, 61201P113) vertinama teigiamai.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	**4**
2.	Programos sandara	**3**
3.	Personalas	**4**
4.	Materialieji ištekliai	**4**
5.	Studijų eiga ir jos vertinimas	**3**
6.	Programos vadyba	**3**
	Iš viso:	**21**

* 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

KTU programa „Taikomoji matematika“, suteikianti bakalauro laipsnį, atitinka visuomenės ir Lietuvos bei Europos darbo rinkų poreikius. Pagal ją rengiami matematikos srities specialistai, dirbsiantys įvairiose ūkio ir pramonės šakose arba užimsiantys mokslines pareigas. IT valdomame pasaulyje dabar yra ir ateityje vis labiau bus reikalingi geri matematikai.

Stiprumo programai suteikia didelis KTU akademinio personalo kompetentingumas. Tačiau baigtinių algebrinių struktūrų specialistų ir naujų didaktikos metodų stoka trukdo gerinti programą. Programos dėstytojų amžiaus pasiskirstymas toks, kad ateinančiais metais reikės

pakeisti keletą dėstytojų. Taip KTU atsiras galimybė priimti jaunų dėstytojų, turinčių kitokios kompetencijos mokslinių tyrimų srityje ir naujų idėjų dėl dėstymo bei mokymosi.

Matyti, kad modernizuojami pastatai ir laboratorinė įranga. Dėl aiškios ir gerai suplanuotos programos sandaros dauguma studentų turi galimybę baigti programą per standartinį studijų laikotarpį. Iškritimo lygis aukštas, bet mažėja. Turėtų būti koreguojami studijų dalykų aprašai ir egzaminai, siekiant užtikrinti jų tarpusavio suderinamumą, o studijų procesą orientuoti ne į temų gausumą, o į nuodugnų medžiagos įsisavinimą. Reikėtų stiprinti mokslinius tyrimus ir jų matomumą tarptautinėje erdvėje. Į projekto veiklą reikėtų labiau įtraukti studentus. Reikėtų kruopščiau išnagrinėti ir aptarti su studentais jų pateikiamą grįžtamąjį ryšį apie studijų dalykus ir studijų administravimą.

III. REKOMENDACIJOS

(Pirmasis skaičius visada rodo atitinkamą skyrių).

1.1. Sąvoka „taikomoji matematika“ yra pripažinta tarptautiniu mastu ir nusako tam tikrą matematikos šaką. Taigi suteikiamas „matematikos bakalauro“ laipsnis turėtų būti pervadintas „taikomosios matematikos bakalauro“ laipsniu. Dabartinis šio laipsnio pavadinimas yra painus, jis aiškiai neparodo absolventų žinių.

2.1. Vertinimo grupė pabrėžia, kad tam tikros žinios apie algebrines struktūras būtinos kelioms matematikos taikymo sritims. Fakultete reikėtų apsvarstyti šių elementų įtraukimą į atitinkamus mokymo komponentus ir šios medžiagos įtraukimą į pirmosios pakopos studijų programą. Tai atvertų platesnes absolventų įsidarbinimo galimybes. Šiuos elementus galima įtraukti sumažinus kitų dalykų apimtį.

2.2. Vienas iš būdų, kaip paskatinti studentus aktyviai dalyvauti mokymosi procese, yra projektais grindžiamo mokymosi elementų įdiegimas. Visame pasaulyje kiekvienas matematikos kursas sudarytas iš dviejų dalių. Pirmoji susijusi su teoriniais studijų turinio klausimais – pagrindinėmis sąvokomis ir teoremomis. Antroje dalyje studentai mokosi taikyti teoriją atlikdami dėstytojo nurodytus pratimus ir spręsdami uždavinius. Tai svarbiausia jaunųjų matematikų ugdymo dalis, kadangi jie mokosi dalyko patys spręsdami matematinius uždavinius, o ne stebėdami, kaip tai daro kiti.

2.3. Būtų tikslinga kuo labiau susitelkti ties klausimais, susijusiais su programavimo kalbų ir įrankių elementais (MATHLAB, SAS ir kt.). Šiuo metu jie išskaidyti per kelis dalykus, kurie dažnai akivaizdžiai sutampa.

3.1. Reikėtų sumažinti dėstymo universitete ir už jo ribų krūvius, ypač jaunų darbuotojų, ir paskatinti, kad daugiau dėmesio būtų skiriama moksliniams tyrimams. Reikėtų priimti daugiau visu etatu dirbančių dėstytojų. Turėtų būti kviečiami kviestiniai dėstytojai, vietiniai ir kitų šalių (pvz., Fulbright stipendijos dėstytojai). Reikėtų apsvarstyti galimybę suteikti atostogas ir specialias atostogas studijoms užsienio universitetuose, siekiant keistis idėjomis apie šiuolaikinius didaktikos metodus ir atlikti mokslinius tyrimus.

3.2. Po kelių metų dėl pensinio amžiaus iš pareigų pasitrauks keli dėstytojai. Atsiras galimybė priimti jaunų dėstytojų, turinčių naujų idėjų dėl mokymo ir mokymosi, ir panaikinti trūkumus, susijusius su abstrakčiosios matematikos, algebros ir kompiuterinės matematikos mokymu bei moksliniais tyrimais šiose srityse.

4.1. Reikėtų pailginti bibliotekos darbo laiką, kad studentai turėtų daugiau galimybių jose mokytis (remiantis studentų skundu).

5.1. Turėtų būti susitarta dėl realių ir pagrįstų studijų dalykų aprašų ir nustatyti tokio lygio egzaminai, kurie užtikrintų pageidaujamus studijų rezultatus. Pagrindinių kurso faktų nežinantys ar nesuprantantys studentai neturi būti vertinami teigiamu pažymiu.

6.1. KTU turėtų ir toliau užtikrinti kokybės vertinimą bei tęsti jau pradėtas kokybės užtikrinimo procedūras. Kokybės vertinimą reikėtų laikyti ne našta, o pažangos priemone. Taigi vertinimo grupė pataria apibrėžti aiškias dėstymo, studijų programos valdymo ir mokslinių tyrimų gerinimo procedūras, atsižvelgiant į studentų grįžtamąjį ryšį, surinktą gausią informaciją ir įvairių vertinimų rezultatus. Surinktus duomenis reikėtų panaudoti teikiant konsultacijas. Turi būti kuriami mechanizmai, padedantys akademiniam personalui mokyti (dėstytojų mokymas, dėstytojų kvalifikacijos kėlimas) ir atlikti mokslinių tyrimų funkciją (atostogos studijoms, darbo krūvio mažinimas).

6.2. Internacionalizacija yra pagrindinis aukštojo mokslo plėtros elementas. Tai daugialypis uždavinys, apimantis judumo programas, kalbų politiką, jungtines ir dvigubo laipsnio programas, bendrus mokslinius tyrimus, dalyvavimą konferencijose ir t. t. Ir toliau stiprinkite

užsienio kalbų politiką ir naudokite daugiau anglų kalbos vadovėlių bei skaitykite paskaitas anglų kalba. KTU ir jo Fundamentaliųjų mokslų fakultetas turėtų ieškoti lygiaverčių partnerių studentų bei dėstytojų mainams ir didinti atvykstančių bei išvykstančių studentų ir akademinio personalo judumą (programa *Erasmus*, specialios sutartys).

6.3. Didinti studentų savarankiško darbo apimtį ir savarankiško mokymosi komponentų skaičių. (Studentai neturėtų per praktines pratybas ar egzaminus vien „kartoti“ tai, ką išmoko per paskaitas). Stiprinti kūrybiškumą ir praktinius mokymo elementus. Kuo daugiau naudotis virtualia mokymosi aplinka „Moodle“. Dėstytojas turėtų kiekvieną savaitę išdalyti studentams pratimų rinkinį, kiekvienas studentas, vienas, o galbūt su kitais studentais, juos išspręstų. Po savaitės studentai aptartų šių uždavinių sprendimą su dėstytoju.

6.4. Užtikrinti ir įforminti universiteto bei socialinių partnerių santykius, siekiant įtraukti studentus į projektinę veiklą.

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