STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Kauno technologijos universiteto

ŽINIASKLAIDOS INŽINERIJOS PROGRAMOS (612H74002)

VERTINIMO IŠVADOS

EVALUATION REPORT OF *MASS MEDIA ENGINEERING* (612H74002) 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	***Žiniasklaidos inžinerija***
Valstybinis kodas	612H74002
Studijų sritis	Technologijos mokslai
Studijų kryptis	Gamybos inžinerija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (4), Ištęstinė (6)
Studijų programos apimtis kreditais	240
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Spaudos inžinerijos magistras
Studijų programos įregistravimo data	2001-08-02 Nr.1187

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Mass Media Engineering***
State code	612H74002
Study area	Technological Sciences
Study field	Manufacturing Engineering
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
Degree and (or) professional qualifications awarded	Bachelor of Printing Engineering
Date of registration of the study programme	2 August 2001, No. 1187

CONTENTS

I. INTRODUCTION

The study programme of *Mass Media Engineering* (MME) (the first study cycle) is tutored by the Department of Graphic Communications Engineering of the Kaunas Technological University (KTU) Faculty of Design and Technologies (FDT), hereafter called the Department. The teaching staff of Design, Clothing and Polymer Products Technology Departments of the FDT, of Faculties of Economics and Management, Informatics, Fundamental Sciences, Mechanics and Mechatronics as well as other faculties and branches of KTU takes part in the realization of the programme.

The external assessment procedures of the study programme were initiated by the Centre for Quality Assessment in Higher Education in Lithuania nominating the external assessment peer group of dr. Joerg Longmuss (Germany), prof. Johan Malmqvist (Sweden), assoc. prof. Arvidas Masiulis (Lithuania), Jonas Renatas Lazaravičius (Lithuania), and Domas Rimeika (Lithuania).

The basis for the evaluation report is the written Self-Assessment Report (SAR) of the Department, its annexes and the site visit of the experts on 7th May 2013. During this visit the experts reviewed the organisation of the programme, the way in which the curriculum had been designed, the way the study quality was being assured, the qualification of the staff, facilities and learning resources, study process, students assessment and programme management.

During this visit they met with administration staff, staff responsible for preparation the SAR, teaching staff, students, alumni and with social partners. They had the occasion for familiarizing with students' course and final papers (thesis) and examination material as well as visiting auditoriums, libraries and other facilities (studios, teaching spaces, computer services, etc.).

II. PROGRAMME ANALYSIS

(*All numbers of paragraphs refer to the self-evaluation*)

1. Programme aims and learning outcomes

Kaunas University of Technology's study programme "Mass Media Engineering" (MME) features a relatively detailed aim (§ 23). The aims suggest that the program aims to develop production and manufacturing engineers with knowledge of (excerpt) "mass media technologies, …, digital advertising technologies, … electronic business …". The programme aim is relevant for two main groups of professionals: for printing engineers and for creatives in the advertising industry.

The programme addresses an important sector of Lithuanian industry. Appropriate actions are taken to understand the needs of Lithuanian industry (§ 19-21). However, the need for graduates is not elaborated beyond the needed number of graduates in the industry, for example by identifying professional roles (designer, manufacturing planner, quality engineer) that the programme prepares for.

The self-evaluation report further lists 23 programme learning outcomes (§ 26). The programme learning outcomes are structured according to the EUR-ACE standards and are thus compatible with international expectations on bachelor degrees in engineering.

The programme name and its aims indicates a rather wider scope than are visible in the learning outcomes. Mass media also includes TV, radio and digital media. According to its specified learning outcomes MME programme mainly considers print media, including printing technology and advertising design.

The learning outcomes place like the EUR-ACE standards the emphasis on design rather than production. Since the programme belongs to the area of production and manufacturing it might be argued that there is too little consideration of manufacturing in the learning outcomes. For example, there are no learning outcomes related to production management or maintenance, although these are likely job tasks for some of the programme's graduates.

Moreover, some learning outcomes are unclear or should have been decomposed further. For example, F3 comprises two different objectives ("work self-sufficient and in a group"). Looking from the other direction (from subject to learning outcome), it is claimed that some subjects (eg Prepress technologies, Mass media technologies) contribute to almost all programme learning outcomes. The mapping from learning outcomes to subjects then becomes rather obscure. It is difficult to understand the precise contribution of the many subjects that contribute to particular learning outcomes (Table 3).

There are good routines in place to annually update the learning outcomes, with respect to input from faculty, students and employers.

In conclusion, the programme aims and learning outcomes are well defined, clear and publicly accessible. The programme aims and learning outcomes are based on the academic and/or professional requirements, public needs and the needs of the labour market. The programme aims and learning outcomes are consistent with the type and level of studies and the level of qualifications offered. However, the aims and the name of the programme indicate a wider scope than is shown in the programme learning outcomes. The programme learning outcomes need to be revised to better reflect the graduate's expected capabilities with regards to digital and to manufacturing operations. Such a revision is required to align the name of the programme, its learning outcomes, and its content.

2. Curriculum design

The MME programme consists of 240 ECTS credits, of which 66 ECTS are directly related with the speciality. 24 ECTS are allocated for specialization within the subject area. 18 ECTS are allocated to basic subject, 36 to engineering basic subjects, 39 to mathematical and physical science subjects and 15 ECTS to social science subjects. 15 ECTS are dedicated for the final degree project. The number of study subjects does not exceed 7 courses per semester. The MME programme curriculum thus meets the legal requirements set by the Ministry of Education and Science for the first cycle study programme.

The 240 ECTS duration is by international standards rather long for a bachelor degree, well exceeding the 180 ECTS which is the requirements in many countries and which is the baseline for the EUR-ACE standards for the 1st cycle. However, this meets Lithuanian standards. For the MME programme, the duration allows the programme to develop a good depth of knowledge in the main subject, while maintaining a good basis in mathematics and science, and engineering basics. The curriculum provides a good balance between basic and main study fields subjects.

The programme name and its aims indicate a rather wider scope includes TV, radio and digital media. The programme's main subject topics include visualization, colour science, design, graphic design, printing machines etc. Subjects in the elective parts allow for specialization towards printing technologies or advertising engineering technologies (Table 4). The main study subjects and the specialization subjects are strongly oriented towards print media and have limited components of other mass media. This is in line with the expected learning outcomes but not in line with the programme name. Key mass media types such as television and radio seem to be less well represented in the program, casting a certain doubt that the programme can live up to its broad name. Especially digital media including social media technologies such as web 2.0 are essential for current advertising but poorly represented in the curriculum. The need to master a wide range of media types is getting stronger these days when ad campaigns present a message in many channels. Interviews with alumni and social partners further revealed that graduates also

work with manufacturing operations, quality management and maintenance, topics with little exposure in the curriculum where mainly manufacturing (printing) technologies are addressed.

Although group work is an element of some subjects, programme seems to lack compulsory team-based project subjects aimed at printing engineering or advertising design. However, a promising voluntary subject was discussed in interviews. In this subject, students from the MME programme collaborated with economics students around a simulated enterprise. Another very promising arena for educational projects is the Startup Lab, where students could further develop their ideas to commercialization. Such collaborative subjects and arenas have many benefits: they develop multidisciplinary teamwork skills and enable the education to address more complex and realistic problems. They are important components to prepare students for the future workplace and the programme is encouraged to develop this subject further and make it a compulsory part of the programme. A sequence of project-based subjects with varying focus and team composition could be developed, and include at least one in each year of the curriculum.

The programme is taught in Lithuanian. The university provides opportunities for studies abroad, mainly through the Erasmus programme, but few MME students participate in such exchanges. However, the printing industry is international and collaborations in English, German, Russian and French are common. The programme is encouraged to develop a stronger international orientation amongst its students. This could be achieved through more active encouragement to study abroad, and through introducing learning experiences taught in English including whole subjects, lectures, written assignments and oral presentations.

In conclusion, the curriculum design meets legal requirements; study subjects and/or modules are spread evenly, and their themes are not repetitive; and the content of the subjects and/or modules is consistent with the type and level of the studies. The content and methods of the subjects/modules are appropriate for the achievement of the intended learning outcomes. The scope of the programme is sufficient to reach the stated learning outcomes. However, the content of the programme only partially reflects the latest achievements in science, art and technologies. The aim of the programme suggests that it addresses a broader range of mass media than the current focus on print media. As a consequence of revising the learning outcomes to include specific learning outcomes related to digital media and manufacturing operations, new or revised subjects should include corresponding learning experiences. The programme should also introduce learning experiences dedicated to teamwork and communication in English.

3. Staff

The MME study programme is provided by the staff consisting of 41 persons: 8 professors (20%), 23 associated professors (56%), 2 lecturers with doctoral degree (5%), 7 lecturers without doctoral degrees (17%) and 1 senior researcher (2%) (§55). This is in line with the country‘s legal requirements that at least half of the field of study subjects should be taught by researchers with scientific degrees. From all lecturers and professors 9 (1 professor, 4 associated professors and 4 lectures) (§65) are from the Department of Graphic Communications Engineering that is responsible for this study programme. It should be noted that about 70% main study courses of programme are provided by researches of Department of Graphic Communications Engineering.

Most lectures in the programme have a scientific degree in technologies sciences and almost all of them work at the Department, Faculty or University. Researches from other faculties of University are invited to lecture on the programme. For example, in the Programme are working teachers from the Design Department (1 professor and 1 associated professor) and Clothing and Polymer Products Technology (1 professor) of Faculty of Design and Technologies, from the Faculty of Economics and Manegament (2 professors), from Faculty of Informatics (1 professor), from Faculty of Fundamental Sciences (1 professor, 2 associated professors and from the Faculty of Mechanics and Mechatronics (2 professor and 1 associated professors) (see Annex 3.2).

Students of the Programme have possibilities to listen short-term lectures of visiting teachers (§61). Each year the professionals from foreign countries (for instants, Sweden company Lorentzen and Weetre) and Lithuanian companies (for example, Monart LT, JSC Amcor) present lectures about modern laboratories, the newest advertising technologies, employment possibilities and other.

The State and University legal requirements of staff are fulfilled. The high qualification of the teaching staff is adequate to ensure the intended learning outcomes of the programme.

In terms of quantity the number of teaching staff is adequate. Workload within the staff members is approximately evenly distributed.

The ratio between students and teachers number is reduced and is in the average 6 students to 1 lecturer, as stated in §62. The State normative number for engineering studies is 12 students to 1 lecturer. But this ratio is confirmed by the order of the Rector and determines pedagogical work structure, the amount and accounting order at the University. According to this order the annual work amount of full time lecturer must be 800 hours. The lectures and professors of the Department devote their time for pedagogical, research, methodical, and organizational work, expert and educational activities. The part of pedagogical work usually should amount to about one half of their time (§68).

The teaching staff members find good conditions for their professional development and the staff turnover is appropriate to ensure adequate provision of the programme: Turnover of staff slightly varied from 39 to 41 teachers during the 2007/2008 – 2012/2013 study years. During the mentioned period the number of professor's decreased from 13 to 8 and the number of lecturers increased from 4 to 9 (§70-88). The Self-assessment report highlights contributions of academic staff to various national and international projects. But continuing professional development has a more individual focus rather than implementation of a whole staff development policy.

The Self-assessment report indicates that a sufficient number of teaching staff of the programme is involved in wide research directly related to the programme. For example, all lecturers and professors of the Department have participated in international research project "Investigation of Production Technologies of Special Printing Types and Packages Assessing Their Ecological and Performance Properties" funded by States Studies Foundation (§70, 71). Research activity of the Department lectures and professors are very close to the subjects of the Programme.

4. Facilities and learning resources

The Expert Team inspected the facilities and learning resources at the Faculty.

Auditoriums, computerised auditoriums and technical laboratories correspond to the requirements of hygiene and work security as stated in §90 – 92.

Computerised auditoriums are equipped with number of computers, including software, similar to one, which is used in different printing and advertising companies.

Technical laboratories has number of special equipment, used for practical works, as stated in §94. But only few newer testing and technical laboratories equipment could be seen. The experts suggested that this may be solved with either redistribution of internal financing or, in addition, with the development of a strategy of services and closer cooperation for research and test of products for enterprises. This would allow gathering more real practice for students and for the Faculty to renew the existing equipment with new one or keep it up to date.

Beside equipment, also consumables, needed for technical testing, the programme needs more intensive financing. Industrial enterprises provide several products for testing, but from the experts' point of view quantity and quality of devices should be increased.

Study programme sends students for practice at different enterprises, institutions around Lithuania or with help of Erasmus mobility programme – during the analysed period 59 programme students have carried out practice abroad while 5 were coming in (§ 116).

The experts suggest that the number of credits for practice could be increased, from existing 15, in order to get more technical and practical skills.

A sufficient number of methodical resources are available at the Library and methodical classroom, as stated in Appendix 2.4.2.

There is a number of practical material in Lithuanian language and a wider range of newest informations is available through the internet. Access to international databases is present and used, as stated in §100.

Electronic system for information "Mano KTU" is used for better communication and news delivery.

5. Study process and student assessment

The admission requirements are well-founded as stated in §104. There are several measures taken to attract students. E.g. Children's University, Schoolchild University and Schoolchild laboratory are organised, department lecturers participate in the event called "Researchers' night", the lecturers participate at the national science festival – "Spaceship Earth" and the Department since 2011 organizes annual creative works' competition, called "DIZMEIKER'IS" (§105). The organisation of the study process ensures an adequate provision of the programme and the achievement of the learning outcomes, as described in § 108. However, according to table 12 (§ 112) the dropout rate only in the first semester is about 10 %.

Students are encouraged to participate in research, artistic and applied research activities and may present their scientific work in conferences and seminars (§8). There is a scientific students union, encouraging and supporting students research (§ 47). Support is also given to students with a very good performance and participation in research (§ 132). Generally, a broad variety of academic (§119 – 127) und social (§128 – 134) support is provided.

Students have opportunities to participate in student mobility programmes and in the average more than 20 % participate in the Erasmus programme.

The assessment system of students' performance is clear, adequate and publicly available in the module description. Students claim that they get informed in advance on the requirements.

The professional activities of the majority of graduates meet the programme providers' expectations, as § 148 states: "Survey showed that about 16% of graduates were employed immediately, 21% – during first three months, and during first six months – 35% … about 65% successfully work by specialty."

6. Programme management

Responsibilities for decisions and monitoring of the implementation of the programme are clearly allocated, as stated in §150 – 152, §155. Information and data on the implementation of the programme is regularly collected and analysed at different levels:

- object attestation according to the internal KTU regulations is performed every three years,
- preparation for next academic years each academic year,
- external assessment by the SKCV (all stated in §159).

The outcomes of internal and external evaluations of the programme are used for the improvement of the programme as stated in §169 and some subsequent paragraphs. The quality assurance system has significantly improved the students' feedback on programme quality.

The evaluation and improvement processes involve stakeholders; there are a PhD-Student, a student delegated by the student's union and a representative of employers in the Study committee. Graduates and employers are also involved in evaluation and improvement (§175 – 177).

Students are requested to give feed-back, also on every course. Students' participation in online questionnaires is rather limited (sometimes as little as 10 %), but there are also round tables with students on their feedback and possible improvements. Both students and graduates express the firm conviction that their input incites changes from the faculty's / department's side. They stated – without going into details – that a number of recent improvements gave evidence of this.

The internal quality assurance measures are effective and efficient. The general impression of the evaluation team after the visit was, that the programme management is organised and carried out well.

III. RECOMMENDATIONS

1. The programme should develop specific aims, learning outcomes and educational elements that address digital media.
2. Group work and project-based learning should be more emphasised to reach the sought learning outcomes, e.g. by developing a sequence of project-based subjects with varying focus and team composition, and include at least one in each year of the curriculum.
3. The programme should strengthen its elements of multidisciplinary collaboration, e.g. by making the simulated enterprise project that is run with the Faculties of IT and Economics & Management compulsory.
4. Students should be further supported in improving their English (in particular technical English) with emphasis on speaking and writing skills, e.g. by involving more English literature; English lectures assignments and presentations in English etc. Were possible also skills in a second foreign language (German, Russian, and French) should be supported.
5. The international orientation of the students should be strengthened, e.g. by more encouragement and support of participation in the Erasmus programme, periods of practice in foreign countries, visits etc.
6. The connection with professional practise and new developments in Printing engineering and Advertising should be strengthened, e.g. by attracting more lecturers from industry, carrying out assignments in companies, organising visits, extending periods of practice etc. Theoretical subjects should be closer connected with practical problems of Printing engineering (eg. through case studies, simulations, adapted problem sets).
7. Educational lab facilities should be increased in size and function, e.g. by developing a student-run printing house/advertising agency space. The programme could also establish collaborations with printing firms to get access to expensive machinery.

IV. SUMMARY

As main strengths of the programme the evaluation team considered:

- Enthusiastic, committed students
- A strong active leadership of the faculty and the department with a vision of the direction in which the study programme should and could develop
- An apparently smooth running feedback system that continuously incites changes and results in rising students' satisfaction
- Innovative learning forms as a role play to understand all aspects of processes in printing
- A broad variety of support to students autonomous learning, namely the installation of a "Start-up Lab"

As main challenges that require action the evaluation team considered:

- The underrepresentation of practise in the study programme
- The rather limited and partly outdated equipment in the laboratories
- A strong connection with the state of the art and new developments in printing engineering – in particular with digitalisation
- Improvement potential in internationalisation

These challenges were reverted by the evaluation team into a total of 7 recommendations.

V. GENERAL ASSESSMENT

The study programme *Mass Media Engineering* (state code – 612H74002) at Kaunas University of Technology is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

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

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;
2 (satisfactory) - meets the established minimum requirements, needs improvement;
3 (good) - the field develops systematically, has distinctive features;
4 (very good) - the field is exceptionally good.

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