



OVERVIEW REPORT FOR PRODUCTION AND MANUFACTURING ENGINEERING STUDY FIELD

2016

INTRODUCTION

This report is based on the external quality evaluation of the following study programmes in the study field of Production and Manufacturing Engineering in Lithuanian Higher Education Institutions: at Klaipėda University – *Production Engineering*; at Kaunas University of Technology – *Production Engineering, Industrial Engineering and Management, Mechatronics*, at Vilnius Gediminas Technical University – *Industrial Engineering, Industrial Engineering and Innovation Management, Production Engineering and Management, Printing Engineering, Construction Materials*.

The external evaluations were organised by the Lithuanian Centre for Quality Assessment in Higher Education (SKVC).

The external evaluations were performed according to the evaluation areas and criteria: (1) Programme aims and learning outcomes, (2) Curriculum design, (3) Teaching staff, (4) Facilities and learning resources, (5) Study process and students' performance assessment, and (6) Programme management.

Comprehensive external evaluation reports including strengths and weaknesses and concluding with some recommendations were prepared for each evaluated programme and included evaluation marks. This overview focuses on the main findings of the external evaluation of the of Production and Manufacturing Engineering field from a general point of view.

All programmes received *positive* evaluation - *ten* programmes received positive evaluation and *no* programme received negative evaluation.

OVERVIEW BY EVALUATION AREAS

Programme aims and learning outcomes are generally well defined and derived from EUR-ACE specifications. However, in some cases, they do not cover personal attributes such as oral communication (including English language) and group working. Also links of individual subjects to learning outcomes and coordination between individual teachers needs to be improved in order to ensure that all the necessary skills that the graduate needs are actually provided in the programme.

The curriculum design is generally good and appropriate, focused on the main issues in the field of production engineering. However, there is often inadequate coverage of some of the more modern production management techniques such as lean management, quality management etc. as well as computer programming skills. Provision of elective subjects is also inadequate in some cases.

The academic staff (teaching staff) are generally well qualified (meet the qualification requirements) and motivated and they have a student centred learning approach. They are often engaged in research that is directly related to the study programme and they are becoming increasingly involved in the international mobility programmes. However, there is still room for improvement on the internationalisation of the staff, particularly with regard to foreign language skills and publication in top international journals. Additionally, it is important to publish on the website a brief CV of each member of staff, especially those involved with Masters programmes, in order to attract new students.

In most cases, teaching, learning and laboratory facilities as well as library facilities are more than adequate and sometimes very good. They are also easily accessible to students. Participation in international projects has facilitated the development of good laboratory facilities. However, better use could be made of the virtual learning environments. While most of the required software is available, some specialist production management software (e.g. ERP software) could be provided to enhance student learning.

Admission and student assessment processes are transparent and students are generally happy with them. Students are also generally happy with the teaching methods and dedication of their teachers. Most of the programmes are directly related to the needs to industry, so the employment prospects of the graduates are very good. However, recruitment to majority of the programmes is falling due to population demographics and other factors which is a threat to the sustainability of those programmes. There is therefore a need to internationalise the programmes to make them more attractive to international students. There is also a need to rationalise the programmes by merging programmes which are similar (e.g. in Construction Engineering and Industrial Engineering).

Management of the programmes is very good and the institutions have adopted electronic academic information systems which seem to work very well. Responsibilities for the implementation and monitoring of the programme through the use of surveys are clearly allocated and well implemented. However, better formal relation with social partners is needed in order to get the best benefit from the goodwill of social partners and improve the programme continuously.

MAIN STRATEGIC RECOMMENDATIONS FOR THE IMPROVEMENT OF STUDY PROGRAMMES IN PRODUCTION AND MANUFACTURING ENGINEERING STUDY FIELD

- **Strategic recommendations at institutional level (for Higher Education Institutions):**
 - Improve the information on the web-site, especially information that is related to the course cards and the link to the staff CVs
 - Ensure better links between Learning Outcomes and individual subjects, in order to assure that all the expected learning outcomes are delivered during the programme.
 - Ensure the internationalization of the staff in teaching and research to ensure the programmes deliver the latest technological developments by increasing the number of interchanges with other European Universities (Erasmus Programme for teachers) and by increasing the international impact of the research (projects and publications).

- Promote improvement of language skills of academic staff, especially English for the purpose of internationalisation. Also, actively seek to recruit international students
- Involve social partners more in the study programmes e.g. to deliver lectures and formal review of the programme.
- Reduce the number of programmes by merging programmes which are similar.

- **Strategic recommendations at national level (for the Ministry of Education and Science):**
 - It is noted that a very large proportion of the academic staff got all their degrees from the same institution in which they are now teaching. This does not satisfy the need for academics to have a wider world view which can mainly be achieved by experiencing the academic culture in other institutions in other countries. It is recommended that international placement at an overseas university or industry for a period of not less than 6 months should be a condition for progression to the grade of Associate Professor. This will encourage internationalisation of the academic staff as well as establishing research links with international centres of excellence in their field for future collaborative research.

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