Overview report of higher education study programmes in the fields of Building Technologies and Civil Engineering in Lithuania

Introduction

The following programmes were evaluated on February 17-21 and March 3-7 by two international teams of experts:

1. Kaunas University of Technology – Bachelor of *Building Technology;*
2. Kaunas University of Technology (Panevėžys Faculty) – Bachelor of *Civil Engineering*;
3. Klaipėda University – Bachelor of *Civil Engineering;*
4. Vilnius Gediminas Technical University – Bachelor of *Civil Engineering*;
5. Vilnius Gediminas Technical University – Master of *Civil Engineering*;
6. Aleksandras Stulginskis University – Bachelor of *Hydraulic Engineering*;
7. Aleksandras Stulginskis University – Master of *Hydraulic Engineering*.

The first international team of experts was composed of:

1. Dr. Mark Richardson (University College Dublin, Ireland) – Team Leader;
2. Prof. Juris Rihards Naudžuns (Riga Technical University, Latvia);
3. Prof. Philippe Bouillard (Université Libre de Bruxelles, Belgium) ;
4. Doc. dr. Vaidotas Šarka (Lithuanian Builders Association);
5. Tomas Pupinis (Student representative).

The second was composed of:

1. Prof. Philippe Bouillard (Université Libre de Bruxelles, Belgium) – Team Leader ;
2. Prof. Roger Frank (Ecole des Ponts – Paris Tech, France) ;
3. Prof. Soon-Thiam Khu (University of Surrey, the UK);
4. Salvijus Juodikis (JSC ”ŠILTRA”) – VGTU degrees;
5. Dr. Vincentas Vytis Stragys (Lithuanian Association of Civil Engineers) – ASU degrees;
6. Martynas Ubartas (Student representative).

This overview report has been prepared by both Team Leaders based on the self-evaluation reports prepared by the institutions, wide-ranging discussions held with staff, students, graduates, employers, the views of the visiting experts and the evaluation reports.

The teams recommended that of the seven programmes evaluated, 4 be accredited for 3 years and 3 be accredited for 6 years.

This report presents the findings of the expert teams under the headings suggested by the Lithuanian Centre for Quality Assessment in Higher Education. It focuses naturally on some of the areas where improvements could be made and makes recommendations accordingly. However, it should be emphasised many positive points and instances of good professional practice were also identified and commended.

Aims and learning outcomes

Overall, the programme aims and learning outcomes are reasonably well defined and information about them was always publicly available. Specifically:

- It is evident that there is a good understanding of the concept of learning outcomes.
- Clear tables exist linking the course units with the learning outcomes.
- The aims and learning outcomes match, generally speaking, those found in most of the comparable level degrees of European Universities.
- The comparison with other similar programmes is rarely detailed in the SER and this deficiency should be better promoted as a tool for benchmarking.
- There is clear evidence that the study programmes are regularly assessed, updated and upgraded.
- There are sometimes issues with the study field classification of programme since there exists some overlap on the curricula of technology and engineering programmes despite significantly different intended graduate attributes (‘Building Technology’ instead of ‘Civil Engineering’ for instance). This is a significant issue because of the inextricable link between study field and intended graduate attributes, which underpin the curriculum design.

Curriculum design

- All the programmes appear to comply with the Lithuanian legal requirements and they are also, in general, consistent with European guidelines.

- The only exception concerns the internships (16 ECTS) for which most of the programmes still include exercises related to subjects. Clear distinction between industry-mentored internships and coursework-related field work is required.

- The number of hours, the variety of the subjects and the methods used ensure the achievement of most of the intended learning outcomes in each field of study.

- Regarding the expected learning outcomes of engineering study field programmes, there is evidence of an underrepresentation of learning activities on design, teamwork and research (particularly at master level). The time devoted to construction management skills development rather than critical thinking skills in some 'civil engineering' study field programmes is an example of this.

- Looking to the immediate future, the significance of changes in industry practices through the increasing use of Building Information Management (BIM) systems needs to be considered in curriculum design.

- The significance of energy use and environmental protection needs to gain more prominence in curriculum updating.

- The current financial opportunities foster the creation of new programmes, often closely related to existing ones. It results in a decreasing number of students and jeopardizes the latter. There needs to be more consolidation of core discipline programmes at bachelor's degree level, allowing the specialized programme streams to develop at Masters degree level.

Staff

- Staff qualification profiles in all programmes meet Lithuanian legal requirements and staff numbers, age and gender profiles are adequate to achieve the intended learning outcomes.

- Staff ratio is reasonable in all the programmes.

- Staff mobility varies considerably between universities. Fostering mechanisms to address low take up should be implemented at a National scale.

- English language skills of staff vary considerably between universities and should be improved, particularly where the programmes are claimed to be taught in English.

- The workload management is based on teaching hours only. In order to better develop the research capacity in Lithuanian universities this model should probably be improved at a National level - it is beyond the scope of any one university to resolve in isolation.

- Average age of the staff is mostly acceptable but the Review Teams often observe difficulties in the recruitment and renewal of staff.

- Continuous staff development is often evident but lacks integration in the career promotion procedures.

Facilities and learning resources

- Generally speaking, the facilities in terms of auditoriums and laboratories are in good condition, as well as computer facilities (computer rooms, WiFi).

- Libraries are well equipped with excellent textbooks and search tools. Excellent opening hours are typical across the universities. However some libraries lack sufficient collections of international references.

- Laboratories are mostly very well equipped but the maintenance of the equipment could be improved.

- Some programmes are missing basic laboratory equipment in important subjects and the Universities encounter obstacles to financially support the investment.

- There is increasing use of virtual learning environment resources to supplement traditional methods of programme delivery. The optimal use of virtual learning environments is a topic worthy of widespread debate among educators.

- The security conditions in some laboratories need to be improved by clearly demarcating restricted areas where appropriate.

- The dormitories are mostly in good condition however the management conditions (allocation, access, maintenance) can sometimes give reason for complaint by users.

Study process and assessment

- The admission requirements are well-founded. The admission requirements are rational and are in accordance with the Ministry of Education and Science Lithuania.

- Decreasing numbers of applicants is a major concern and in one case has now reached a critical level. A deep analysis of too-closely related programmes should be performed. Where necessary regional clustering of a smaller number of programme offerings may be prudent to ensure a critical mass of students per programme.

- The organisation of the study process ensures an adequate provision of the programme and the achievement of the learning outcomes.

- The programme schedules with respect to both student learning and examinations are rational and the workload is well distributed.

- Assessment schedules are clear, sound and publicly available in all programmes. This could be further enhanced if systematized transparent learning assessment and grading schemes were adopted for course work, internships and final thesis.

- However, the selection of final theses topics are unclear in at least one programme and the role of untrained social partners in some assessment procedures raises some concerns.

- The level of academic support is good in all programmes with teachers readily available and willing to help. Students interviewed on all programmes were quite unequivocal in this respect.

- Regarding the student mobility opportunities, the Review Teams commend the number of existing Erasmus agreements. However the number of students benefiting from these agreements remains very low and the Programme Study Committees should examine carefully how to improve the situation, in particular with regard to the transfer system.

- The Review Teams are satisfied that academic and social support to the programmes is satisfactory.

- Employability is high and employer satisfaction is evident across the programmes.

Programme management

- Management systems are very different but are generally working well.

- Study programme committees are working everywhere. The implication of non-staff stakeholders is however to be improved (very often foreseen, rarely implemented).

- The level of formalization of committees (clear agendas, minutes) is to be improved in some cases.

- The information system to support the management of students, studies and staff is well-developed in some universities but needs to be dramatically improved in many universities.

- Automated systems for surveying student opinions are well established but extensive student engagement is universally difficult to achieve.

- The internal quality assurance procedures are mostly well developed but the Review Teams note inconsistent levels of follow up (recommendations are not always followed by actions).

Conclusion

The main common concerns to be quoted are as follows:

- Decreasing number of students;
- Too many closely related programmes;
- Need for clearer differentiation between programmes classifiable as civil engineering and building technology in respect of study field;
- Internships misunderstood;
- Question the workload and career management system to foster research;
- Improve knowledge of English language;
- Develop Erasmus exchanges;
- Improve quality follow up.