

# Overview report of higher education study programmes in the fields of General Engineering and Environmental Sciences in Lithuania

## *Introduction*

The following three masters programmes, one bachelors programme and two professional bachelors programmes in the broad fields of General Engineering and Environmental Sciences were evaluated on February 26-28 and March 12-14 by an international team of experts:

1. Kaunas University of Technology – Masters Programme in *Environmental Management and Cleaner Production*;
2. Šiauliai University – Bachelors Programme in *Environmental and Professional Safety*;
3. Šiauliai State College – Professional Bachelors Programme in *Environmental Protection*;
4. Panevėžys College – Professional Bachelors Programme in *Environmental Protection*;
5. Vilnius Gediminas Technical University – Masters Programme in *Environmental Engineering*;
6. Vilnius University – Masters Programme in *Environmental Studies and Management*.

The international team of experts was composed of:

1. Prof. Emeritus David Eastwood (University of Ulster, United Kingdom, Team Leader);
2. Professor Maris Klavins (University of Latvia, Latvia);
3. Professor Dietwald Gruehn (Dortmund University of Technology, Germany);
4. Lina Šleinotaitė-Budrienė, employer representative (Lithuania).

The team also included student representatives:

1. Gražvydas Jakaitis, (Vilnius Gediminas Technical University, Lithuania) for programmes other than that at VGTU and Panevėžys College;
2. Edgaras Kuodys, (Vilnius University, Lithuania) for the programmes at VGTU and Panevėžys College.

This overview report has been prepared by the Team Leader based on the self-evaluation reports prepared by the institutions, wide-ranging discussions held with staff and students from the institutions during the visits, and the views of the visiting experts.

The team suggested that of the six programmes evaluated, 4 were accredited for six years and 2 for three years.

This report will present the findings of the expert team 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 as to what these instances might be. However, it should be remembered that there are also many positive points and instances of good professional practice.

### ***Aims and learning outcomes***

Overall, programmes were reasonably well defined and information about them was publicly available. On occasions however, this information could have been more complete in order to enable students to make better informed choices. The aims of the programmes were in general consistent with the level of qualification offered. Given the disparate range of programmes under review, it was inevitable that the programme titles varied widely; however some of these titles were not wholly consistent with the contents and were therefore potentially misleading.

There are three principal concerns with the aims and learning outcomes of a number of the programmes.

Firstly, the general aims of the programmes often tend to be very broad and reflect an excessive hyperbole, which would be not only almost impossible to achieve in practice, but which serves only to deflect focus away from the real world demands of the labour market.

Secondly, even given the range of the programmes from professional bachelors to masters' levels, there is a disturbing variation in the emphasis placed on practical and transferable skills. Similarly, there is an overall lack of interdisciplinary context, reflected in integrative modules, such as Environmental Impact Assessment. This creates a lack of any broad environmental perspective – an issue which is especially clear at the final thesis stage.

Thirdly, although given the range of programmes the degree of scientific knowledge demanded will vary widely, the demands of the labour market and of student enrolment cannot be ignored. One university in particular is already experiencing a chronic lack of student enrolment, and a greater labour market focus is essential, including significant market research involving social partner perceptions.

At both programme and module levels, the quality and appropriateness of learning outcomes displayed large variations between institutions. However, the site visits clearly demonstrated the teaching staff's understanding of student-centred and active teaching and learning – a fact clearly appreciated by the students.

## ***Curriculum design***

All the evaluated curricula designs appear to meet the Lithuanian legal requirements and they are also, in general, consistent with European guidelines, for example the Bologna process.

While in general the contents of the curricula are broadly in line with similar programmes elsewhere, at times the rationale for some content appears both obscure and narrowly focussed, suggesting that this may be more a reflection of specific staff research interests, or the availability of local teaching resources, rather than the needs of students. This may also be illustrative of an apparent lack of collective ownership and curriculum design in at least two of the programmes.

The balance between optional and compulsory modules is generally sound, but the degree of flexibility in application varies significantly between programmes. Some programmes permit individual study plans, others do not. With one notable exception, the sequencing of module content is generally progressive and good. However, at times, given modest student enrolments, there appears to be a plethora of small optional modules, some of which rarely seem to take place in practice and which, on reflection, might be better combined into larger, consistent integrative modules.

Module contents and teaching methods are generally sound and modern, but the extent to which practical or placement training takes place varies significantly. To some extent this must reflect the disparate nature and differing levels of the individual programmes, but in general the practical involvement of social partners in developing these vital areas is disappointingly low.

A number of important curricula areas are generally weak. Notable amongst these are:

1. Internationalisation in general, but especially current European Union Legislation and Policy and its impacts;
2. Integrative and interdisciplinary environmental modules, such as modules focussing on Environmental Impact Assessment or Environmental Legislation and Policy;
3. Adequate foreign language training – especially training in the English language;
4. Research skills and scientific writing skills.

## ***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.

Degrees of staff enthusiasm vary widely, but are generally good. Staff show a general willingness to improve their programmes, for example by attending training courses, although there is relatively little evidence of this finding apparent expression in new programme content.

Staff workloads are generally high and unevenly distributed (especially so in terms of final these supervisions). Institutional rules about contracts and working hours are variable and complicated. There is a clear need for time to be allocated to pedagogical training, especially amongst younger staff.

Given the disparate nature of the institutions (four universities, two colleges) under review, variations in research output are inevitable; however research output is generally low, especially in terms of peer reviewed international publications. Moreover, even in those universities with stronger publication records, output is significantly skewed towards a few senior staff members. Research interests are understandably frequently narrow, but there is a tendency for this to reflect in over-narrowly constrained programme content – a potentially serious issue in broad environmental teaching programmes.

Opportunities provided for staff development are generally good, especially for conference attendance, but, with one notable exception, participation rates are disappointingly low. In part, this may reflect general staff motivation levels, but, in terms of international staff mobility programmes, the greatest constraint is clearly inadequate language competence, especially in English. Again with one exception, the internationalisation of programmes is also restricted by a lack of invited international guest lecturers; again reflecting probable language inadequacies.

Staff appraisal and promotion systems are currently very variable both in terms of their periodicity (some are annual, others quinquennial), and the formal criteria appraised, including the rigour with which they are examined. In general however, current appraisal mechanisms do not appear to constitute a strong staff motivational mechanism and do not offer clear promotional prospects, especially for younger staff.

### ***Facilities and learning resources***

Teaching facilities, especially in terms of classrooms and laboratories, are generally good, although staff office space is often either shared or restricted, which at times presents difficulties for interactions with students. With one exception, all of the institutions have recently taken good advantage of European Union structural funding to embark on significant new build or refurbishment scenarios.

Teaching equipment is generally good in terms of both laboratory and computer equipment. Again, recent use has been made of European Union funding initiatives and, in the case of three of the universities, this has been supplemented by modern equipment purchased from individual and departmental research awards. In the case of the two colleges in particular, but not exclusively so, social partners in both the public and private sectors are also used to significantly supplement laboratory and equipment provision.

Library facilities are generally good although, in most cases, there is some room to extend the ready availability of online international databases, including additional training in how to access and fully utilise these resources. In general, the provision of books and other hard copy teaching materials is adequate in both Lithuanian and English.

Current institutional developments are taking place in the use of Virtual Learning Environments (VLEs), such as Moodle, but remain very largely restricted to administrative and programme information dissemination. Considerable scope therefore remains to fully utilise these VLEs for genuinely interactive teaching and learning.

### ***Study process and assessment***

In all programmes admission requirements are clear, publicly available and, in the case of the masters programmes, allow easy transfers from other universities. Nonetheless, decreasing numbers of applicants, especially at the universities, present a worry and, in one case, have now reached a critical level. At college level, cheaper fees, but also part time admissions, appear to have largely resolved this problem.

Flexibility of the study process is very variable, for example in terms of individual learning plans. In general however, there is sufficient flexibility to accommodate part time studies as required and distance learning initiatives are beginning to develop through the use of VLEs.

Assessment schedules are clear, sound and publicly available in all programmes. 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.

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

Specific employment prospects vary between programmes, but are generally good at masters level with employers expressing their general satisfaction with graduates' abilities. Careers advice is generally sound and especially good at the college level, where good placement opportunities also furnish good career prospects.

The role of student satisfaction surveys varies between programmes, but is generally good at the modular level with efficient feedback. However, in at least one case, perceptions of lack of anonymity in online surveys inhibit student participation and the issue of anonymity needs to be addressed.

In all programmes extremely low rates of student mobility, for example on Erasmus programmes, represents a major source of concern. Lack of finance, lack of foreign languages, especially English, and lack of international perspective are all blamed for this, but it is quite clear that all of the

evaluated programmes need to expand their efforts to promulgate student mobility. In most cases they also need to extend staff mobility to achieve a greater international (and at times national) perspective, including substantial expansion in the use of visiting guest lecturers.

### ***Programme management***

The expert team found systems of programme management to be very variable in terms of programme leadership, specific staff responsibilities, in-house quality assurance procedures and strategic programme planning. As such, it is extremely difficult to generalise in this area.

In some institutions, at programme level staff responsibilities pertaining to the ongoing implementation and development of the programme appear to be effectively unclear, with no apparent sense of programme ownership. However, in other institutions there is effective programme leadership, clear lines of staff responsibility and a broadly based pride in programme ownership.

Programme administration is very variable both in terms of the regularity and the membership of programme management committees, for example the extent to which committee membership extends to the wider institution, to students, social partners and alumni. The role of student representation is also currently variable, for example in terms of which committees students might sit on, or if student representatives should be student-elected or administratively-appointed.

Procedures for self evaluative quality assurance vary significantly. For example, in some programmes student satisfaction surveys operate at module and programme levels, are regularly collated and are acted on with effective feedback systems. However, this is not always the case and, in some instances, the expert team could find negligible evidence of actual survey results, or of any effective feedback. The extent to which central agencies within the institution are involved in the collection and collation of data at programme level also varies widely.

In general, the expert team found relatively little evidence of strategic programme development planning, for example on any biennial or quinquennial basis. In this respect little use is being made of either employers or alumni in considering the demands of either the labour market, or of life-long learning. No formal employers' panels were recorded. In general, a greater use of social partners and alumni in forward programme planning would be clearly beneficial.

### ***Conclusion***

All six of the programmes evaluated were accredited for either three or six years, with all individual evaluation areas ranging from adequate to very good. Given the disparate levels and nature of the evaluated programmes, it is difficult to generalise on the current state of Lithuanian higher education in the fields of General Engineering and Environmental Sciences, but this report presents a number of areas which might usefully be addressed.

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Head of the Experts Group

Emeritus Professor David Estwood