

## **ADAPTING REQUIREMENTS OF HIGER EDUCATION TO THE EUROPEAN REQUIREMENTS. NEW EDUCATION STANDARDS IN DESCRIPTIVE GEOMETRY ILLUSTRATED BY THE COURSE OF ARCHITECTURE AND URBAN PLANNING**

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### **1. Basic assumptions of European System of Higher Education**

Contemporary higher education is currently facing many challenges in the context of fast growing social changes and greater demands of the labour market. On the other hand in the last decade we witnessed the dynamic growths of the number of higher education institutions, especially non-public ones, and at the same time the increase in the number of students, mainly part time and extramural students. It is enough to mention that in the academic year 1990/1991 the gross scholarization index at the level of higher education in Poland was 12.9%, whereas in 2004/2005 it soared to 47.8%, and the forecast for 2010 estimates 65% [5]. This desire to improve the quality of education is an international action which is backed up by such ideas as 'knowledge based economy', 'computer science society', 'innovative economy' and 'higher education as a key to success' and thus it results in the wider educational offer as well as steps taken to adapt to international challenges.

Education at higher level according to the Declaration of European Ministers of Education (Bologna 1999) assumes cooperation within the scope of three level academic education by means of the adoption of a system of easily readable and comparable stages, also through the implementation of the Diploma Supplement, in order to promote European citizens employability and the international competitiveness of the European higher education system. The next step was the establishment of a system of credits –the ECTS system - as a proper mean of promoting the most widespread student mobility and getting the points also when studying at universities in other countries. It should be added that Poland has joined in implementation of Bologna Declaration by taking on steps to common usage of the Diploma Supplement since 2005/2006 academic year and in development of two levels of studies and the ECTS system by setting up National Accreditation Committee.

Bologna Declaration also assumes incorporation of Polish higher education into European Education Area which results in actions connected with the assurance of high quality of teaching. The decree of the function of the Committee is supported by regulations which impose education standards at the particular courses of studies [7]. They include agreement on the content of minimum syllabus requirements and formal criterion such as academic staff minimum or didactic base. Fulfilment of the requirements set by National Accreditation Committee for a given course raises the prestige of a university greatly. As Mr. A. Jamiołkowski, the chairman of the committee, writes 'the consciousness that particular courses will be evaluated by independent panels of visitors causes totally new approach to

duties that we have towards students. Also taking into consideration the results of quality evaluation when dividing funds for didactics, forces all members of academic community to have a fresh look on accreditation.' [3]

It should be noticed that accreditation is an environment process which relays on obtaining a kind of pass to a club of good quality of teaching thanks to meeting some meritoric criteria. According to M. Wójcicka Accreditation Committee plays an ordering role of academic teaching, though up till now it does not give stimuli to improve quality of learning for the best universities but it does stimulate weaker institutions [4]. Also E. Chmielecka writes "in Poland accreditation refers to evaluation of curriculum but it does not assure high quality of learning and thus it is of only decorative, surface character because it allows ordering of curriculum in both public and non-public universities [2]. According to the author the improvement of quality of teaching should assure arrangements and realization of standards of education. It can be said that the current binding act on higher education includes economic and social changes but it should also take into consideration many modifications which would let adaptation to quality of teaching to functional solutions operating in other European countries.

## **2. Qualification standards – assumptions presented by the Polish Main Board of Tertiary Education**

Elaboration of standards which motivate universities to upgrade their quality of teaching is of special importance when the EHEA (European Higher Education Area) is being created. Up till now European countries do not have common, comparable structures which would allow high quality of teaching. The works started off dynamically after the international conference in Berlin in 2003. During the conference Follow-Up group has been set up aiming at elaboration of ESK European Structure of Qualification which includes the following: European Network for Quality Assurance in Higher Education (ENQA), European University Association (EUA), European Association of Institutions in Higher Education and National Union of Students in Europe (ESiB).

On the 17-18 May 2007 London Ministerial Conference took place where the principles of creating ESK were discussed and the postulates of European university environment were given. It should be added that the April meeting of Main Board dealt with other issues of ESK in relation to national structure of KSK qualifications. As J. Błazejewski, the chairman of Polish Main Board of Tertiary Education, writes "qualification structure forms a set of descriptors describing the ability to comprehend knowledge, practical skills and ability to use knowledge and skills in work and life. If all these elements are covered by a notion of competence it can be assumed that the two qualification structures (both European and national) serve to describe a graduate's competence according to the accepted model of EHEA. The reference point for formulating ideas which reflect competence is so called 'Dublin descriptors'." [1] The idea being the defining of the final effect of studies and such preliminary preparation of syllabus that the assumed effects are reached.

Implementation of the ideas resulting from qualification structure is connected with the change of teaching ideology since it relates to what a graduate will know not to what he is taught. In this way of understanding detailed teaching standards for courses determine qualification of graduates for particular levels and forms of learning.

Main Board of Tertiary Education gave its opinion on the Minister's of Science and Higher Education regulation on education standards on its April session and it gives a chance

acc. to J. Lubacz, the chairman of Education Committee of Main Board, that Poland will have joined a group of countries which will implement National Qualification Structures by 2010.

### **3. Descriptive geometry in new education standards illustrated by Architecture and Urban Planning course**

On the 12 July 2007 the decree of the Minister of Science and Higher Education on education standards for particular study courses and levels of teaching came into force. New Polish standards introduce first of all two level system of studies. The contents of standards is divided into three main parts:

- I. General requirements – determining minimal duration of studies, minimal number of classes and minimal number of ECTS points which should be obtained during studies
- II. graduate's qualification i.e. aimed final effect (target) of education
- III. primary content of teaching where the essence and effects of teaching in the scope of subjects realized during studies have been defined, they have been divided into two groups: basic group and course group

The education standards for Architecture and Urban Planning course include new two level system of studies. For the first level the following general requirements have been set: duration of studies not less than 7 semesters, number of classes not less than 2500 hours, ECST not less than 210; and for the second one - duration of studies not less than 3 semesters, number of classes not less than 900 hours, ECST not less than 90.

Descriptive geometry has been allocated to the group of basic content with such subjects as mathematics, construction physics and construction mechanics, which are realized during the first level of studies. According to new education standards descriptive geometry education should cover the following content:

- perspective and axonometry,
- kinds of transformation and restitution of space elements
- geometrical shaping of architecture forms by means of polyhedrons, solids and surfaces
- methods of applied perspective.

As far as the effects of descriptive geometry education the following skills and competence should be achieved:

- the command of descriptive geometry in architectural designing,
- designing and visualization of architectural objects.

For the subjects mentioned in the group of basic content minimal number of classed has been assigned for the realization of the recommended content and for the descriptive geometry 45 hours has been given [6].

### **4. Summary**

Up till now education within the scope of architecture and urban planning has been realized at the majority of Architecture Departments of public technical universities as fulltime MSc studies. Descriptive geometry education was realized as 90 hours of classes. New education standards with two level system of studies will be realized in the new academic year 2007/2008. Gathered experience connected with realization of didactic classes will let us form first assessment of new education system.

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