

## THE ADVANCEMENT OF POSTGRADUATE STUDIES OF THE FACULTY

The first postgraduate study of the Engineering Faculty of the University in Rijeka was a postgraduate scientific study for acquiring the academic degree of masters of engineering sciences initiated in 1971 with one teaching course: *Construction theory*.

In the years to come that study went through an array of transformations: smaller and larger reforms of curricula and adjustments with in those times valid laws (acad. year 1977/1978, 1995/1996 etc.), initiation of new courses (acad. year 1975/1976, 1981/1982 etc), broadening from the field of mechanical engineering into the field of naval architecture (acad. year 1977/1978) and into the basic engineering sciences (acad. year 2002/2003).

The postgraduate master's study resulted in strengthening and the maturing process of the Faculty in the scientific sense but also in yielding relevant number of masters of engineering scientists (almost one hundred up to these days).

In the academic year 2003/2004, this postgraduate master's study was extinguished in conformity with of that time new Law of the scientific activity and higher education. Certainly, the Faculty has continued the tradition of educating and creating new scientists, since somewhat earlier (the year of 2002) a postgraduate scientific study for gaining the academic degree Doctor of engineering sciences (Sc. D.) was initiated. The structure of that first doctoral study of the Faculty was a reflection of the lawful frames and also of the fact that it evolved from the graduate study. Hereby, the old model of taking a postgraduate exam, writing scientific less demanding master's thesis and elaborating on the more serious science researches, which eventually resulted in dissertation defense, was for the first time supplanted by the model in which the master's thesis was abolished and phased out, thus being directly linked with lessons at the level higher than of the undergraduate study and with scientific research work which in the form of doctoral thesis presents a license for the world of science.

The prolongation from the formal two year graduate study to three year doctoral study also entailed the tuition extension of postgraduate study resulting not only in enlarged number of subjects that the student was to enroll but also in the extension of the offer of subjects by the doctoral study teacher. The scientific work has not remained within the measured course study frames.

However, in the acad. year 2004/2005 the Bologna reform changed the outlines of the complete higher education in our country. Then for the first time, we encountered the notions like general and specific competencies, learning outcomes of both the complete study and each particular subject of the 1st, 2nd, and 3rd education cycle, ECTS points which are to measure student time, quality control and student surveys, etc. After the old undergraduate studies of that year had been irretrievably supplanted by the new undergraduate and graduate studies, the following academic year, the new

doctoral study was brought into compliance with the new lawful frames.

More precisely, the transformation of the doctoral study of the Faculty started as late as 2004 when it entered a competition of the National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia, and then with the approved project of this Foundation in the acad. year 2005/2006 it took its shape – a significantly changed curriculum.

The very project was successfully finished in the autumn of 2006, by being presented at NZZ workshop on doctoral studies and published in NZZ publication. Certainly, the most important product of the project was the award of accreditation of the Ministry of Science, Education and Sport to a new study programme.

The essential frame of the new study was surely the new Statutes of the studies of the University of Rijeka, which determined both ECTS point allotment in the field of the third cycle and the frames for ECTS point allotment for attending lessons, scientific research and other activities of doctoral students.

Another element determining a new study is a unique entry procedure for all study programs, issued by the Ministry and Agency of Science and Higher Education which has to exhibit that a teacher load is uniformly distributed in all three cycles and that it directly establishes whether the Faculty fulfils the conditions for awarding accreditation to any of its studies.

As this 2009/2010 acad. year has been the fifth doctoral student generation and as learning outcomes have been clarified for every single subject, it is time for a new focus on this study and major breakthroughs.

We understand today that the only adequate way to design a study programme is the one which arises from detailed analysis of competencies which each student should possess, even the one who enrolled the doctoral study.

Also, we understand the difference between general and specific competencies and comprehend the substantial importance of developing precisely the former ones.

Nowadays, we differentiate the position of every single education cycle despite the fact that the detailed qualification frames, both European and national, are currently being written. Today, it is evident that the learning outcomes of not only every single subject but even of every particular subject lesson is derived from the study outcomes. Additionally, we have a clear notion of ECTS system and know exactly how to measure time necessary for certain activities of our students. Besides, we appreciate the implemented quality control, whereas teaching evaluation results are seen in a completely different light. We may be said to become mature with reference to the Bologna reform. However, not only our own competencies but the competencies of science teaching staff have been profoundly changed as well.

After all, it goes without saying that doctoral studies are specific and that it is difficult to define time necessary for scientific research work, especially for the successful one;

and that it is not possible to perform the faculty teaching evaluation of all course studies with the same efficiency, because of the small number of students pro subject and modulus.

In addition, wider social and university perspectives are being continually transformed so that we bear witness to or encounter an array of changes, relating from the art of financing the scientific research projects, new evaluation procedures and rules of not only the study programmes but also of the very universities, different way of evaluating, norm setting for teacher/scientist work, and in this connection supplementary laws of universities, statutes and regulations to the changes of promotion conditions within science professions. Besides, we are glad to be a part of a relatively young, very ambitious and propulsive University which gives rise to reforms even when we ourselves do not find it necessary.

Therefore, we have initiated a new reform of doctoral study of the Faculty which is about to redefine the ratio between teaching and scientific research work, to set up continual and formal monitoring of promotion of each doctoral student in a more clear and strict way and to define mentorship during all the study in a precise way and many other things.

We are expected to carry out all modifications successfully so that the following academic year will be clearly defined as the advancement of the postgraduate studies of the Faculty of Engineering of the University in Rijeka

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