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Aligning Informatics Study Programs with Occupational and Qualifications Standards

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Abstract : The University of Rijeka, Department of Informatics participated in the Stand4Info project, co-financed by the European Union, with the main idea of an alignment of study programs with occupational and qualifications standards in the field of Informatics. A brief overview of our research methodology, goals and deliverables is shown. Our main research and project objectives were: a) development of occupational standards, qualification standards and study programs based on the Croatian Qualifications Framework (CROQF), b) higher education quality improvement in the field of information and communication sciences, c) increasing the employability of students of information and communication technology (ICT) and science, and d) continuously improving competencies of teachers in accordance with the principles of CROQF. CROQF is a reform instrument in the Republic of Croatia for regulating the system of qualifications at all levels through qualifications standards based on learning outcomes and following the needs of the labor market, individuals and society. The central elements of CROQF are learning outcomes - competences acquired by the individual through the learning process and proved afterward. The place of each acquired qualification is set by the level of the learning outcomes belonging to that qualification. The placement of qualifications at respective levels allows the comparison and linking of different qualifications, as well as linking of Croatian qualifications' levels to the levels of the European Qualifications Framework and the levels of the Qualifications framework of the European Higher Education Area. This research has made 3 proposals of occupational standards for undergraduate study level (System Analyst, Developer, ICT Operations Manager), and 2 for graduate (master) level (System Architect, Business Architect). For each occupational standard employers have provided a list of key tasks and associated competencies necessary to perform them. A set of competencies required for each particular job in the workplace was defined and each set of competencies as described in more details by its individual competencies. Based on sets of competencies from occupational standards, sets of learning outcomes were defined and competencies from the occupational standard were linked with learning outcomes. For each learning outcome, as well as for the set of learning outcomes, it was necessary to specify verification method, material, and human resources. The task of the project was to suggest revision and improvement of the existing study programs. It was necessary to analyze existing programs and determine how they meet and fulfill defined learning outcomes. This way, one could see: a) which learning outcomes from the qualifications standards are covered by existing courses, b) which learning outcomes have yet to be covered, c) are they covered by mandatory or elective courses, and d) are some courses unnecessary or redundant. Overall, the main research results are: a) completed proposals of qualification and occupational standards in the field of ICT, b) revised curricula of undergraduate and master study programs in ICT, c) sustainable partnership and association stakeholders network, d) knowledge network - informing the public and stakeholders (teachers, students, and employers) about the importance of CROQF establishment, and e) teachers educated in innovative methods of teaching.

Keywords : study program, qualification standard, occupational standard, higher education, informatics and computer science
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