

Aligning Study Programmes with Occupational Standards and Qualifications Standards in the Field of Informatics Based on Croatian Qualifications Framework

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Introduction

- Department of Informatics is one of 8 partners at the project „The development of occupational standards, qualification standards and study programs based on the Croatian Qualifications Framework in the field of informatics” – **St@nd4INFO**
- coordinator is Faculty of organization and informatics Varaždin, University of Zagreb
- project is co-financed by the European Union from the European Social Fund
- project duration is 15 months (june 2015 – september 2016)
- project objectives are:
 - higher education quality improvement in field of information and communication sciences in accordance with the objectives of CROQF,



Introduction

- increasing the employability of students of information and communication science and technology as future participants of the labour market and
- continuously improve the competence of teachers in accordance with the principles of CROQF
- The expected results of the project are:
 - completed proposals of qualifications standards and occupational standards in the field of information technology,
 - revised curricula of undergraduate and graduate study programs in computer science,
 - set up a sustainable partnership and association stakeholders,
 - informing the public and stakeholders (teachers, students and employers) about the importance of CROQF establishment and
 - teachers educated in innovative methods of teaching

Croatian Qualifications Framework - CROQF

- „The Croatian Qualifications Framework is a reform instrument for regulating the system of qualifications at all levels in the Republic of Croatia through qualifications standards based on learning outcomes and following the needs of the labour market, individuals and society”
- a framework which sets every qualification acquired in Croatia at its place
- the central element of the CROQF are the learning outcomes
 - competences acquired by the individual through the learning process and proved after the learning process
 - the learning process itself is not crucial, as the learning outcome is assessed



Croatian Qualifications Framework - CROQF

- the place of each qualification acquired in the Republic of Croatia 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
 - it also enables the 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
 - enabling the visibility of qualifications acquired in Croatia on Croatian and the European labour market.



Levels of qualifications

Levels of CROQF qualifications	Assigning qualifications to levels of the CROQF	Referencing to the EQF levels
Level 1	<ul style="list-style-type: none"> primary education (osnovno obrazovanje) 	EQF Level 1
Level 2	<ul style="list-style-type: none"> vocational training (strukovno osposobljavanje) 	EQF Level 2
Level 3	<ul style="list-style-type: none"> one-year and two-year secondary school vocational education (jednogodišnje i dvogodišnje srednjoškolsko strukovno obrazovanje) 	EQF Level 3
Level 4.1	<ul style="list-style-type: none"> three-year vocational education (trogodišnje strukovno obrazovanje) 	EQF Level 4
Level 4.2	<ul style="list-style-type: none"> general secondary education (gimnazijsko srednjoškolsko obrazovanje) four-year and five-year vocational secondary education (četverogodišnje i petogodišnje strukovno srednjoškolsko obrazovanje) 	EQF Level 4
Level 5	<ul style="list-style-type: none"> professional higher education studies with less than 180 ECTS credits acquired (stručni studiji završetkom kojih se stječe manje od 180 ECTS bodova) vocational post-secondary development and training (strukovno specijalističko usavršavanje i osposobljavanje) programmes for master craftsman with at least two years of assessed work experience (programi za majstore uz najmanje dvije godine vrednovanog radnog iskustva) 	EQF Level 5

Levels of qualifications

Levels of CROQF qualifications	Assigning qualifications to levels of the CROQF	Referencing to the EQF levels
Level 6	<ul style="list-style-type: none"> undergraduate university studies (sveučilišni preddiplomski studiji) undergraduate professional studies (stručni preddiplomski studiji) 	EQF Level 6
Level 7	<ul style="list-style-type: none"> graduate university studies (sveučilišni diplomski studiji) specialist graduate professional studies (specijalistički diplomski stručni studiji) post-Master specialist university studies (poslijediplomski specijalistički studiji) 	EQF Level 7
Level 8.1	<ul style="list-style-type: none"> postgraduate research Master of science studies (poslijediplomski znanstveni magistarski studiji) 	EQF Level 8
Level 8.2	<ul style="list-style-type: none"> postgraduate university (doctoral) studies (poslijediplomski sveučilišni (doktorski) studiji) defence of a doctoral thesis not involving taught study programme (obrana doktorske disertacije izvan studija) 	EQF Level 8



Croatian Qualifications Framework - CROQF

- The CROQF introduces qualifications standards
 - the same qualification can be acquired at different educational institutions and through different educational programmes
 - there are certain standards in terms of defined learning outcomes that a qualification needs to have
 - Educational programmes need to be in line with the qualifications standards which would mean that they lead to the acquirement of leaning outcomes that are defined by a respective qualification standard.
- The CROQF introduces occupational standards as well
 - a document which contains clearly defined competences required for a certain occupation



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Occupational Standards

- the working group for the development of occupational standards has made 5 proposals of occupational standards
- 3 standards require a level of undergraduate study (CROQF level 6):
 - System Analyst
 - Developer
 - ICT Operations Manager
- 2 standards require a level of graduate study (CROQF level 7):
 - System Architect
 - Business Architect
- for each occupational standard employers provided a list of key tasks and associated competencies necessary to perform them



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Occupational Standards

- working group has defined a set of competencies required for a particular job in the workplace
- then each set of competencies was described in more details by individual competencies
- [example](#)



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Qualifications Standards

- two working groups for defining the qualification standards were formed
 - a working group for undergraduate level and one for graduate level of studies
- based on sets of competence from occupational standards we have defined sets of learning outcomes
- we have tried to link competencies defined in the occupational standard with learning outcomes
- we agreed that each set of learning outcomes represents 3-6 ECTS generally and contains 5 individual learning outcomes
- of the total of 180 ECTS at the undergraduate level, we proposed 120 ECTS of mandatory learning outcomes and 60 ECTS election learning outcomes

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Qualifications Standards

- Therefore, anyone who wants to educate bachelor's of informatics has to deliver these 120 ECTS mandatory learning outcomes, and 60 ECTS may vary from program to program
 - In one study program a set of learning outcomes may be mandatory, and in another one it may be optional, and vice versa
- For each learning outcome, as well as for the set of learning outcomes, it is necessary to specify the method of verification and the necessary material and human resources
- [Example](#)
- To check the coverage and compatibility of competences from occupational standards with defined learning outcomes we made a [matrix](#): learning outcomes - competences

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Revision of Study Programmes

- the task of the project is not to create a new study program but to suggest a revision of the existing programs
- our main goal is (so we entered the project) to create a new, improved study program and after the completion of the project we will start doing it
- it is necessary to analyze existing programs and determine how they meet and fulfill defined learning outcomes of qualifications standards
- we'll make a matrix: courses - learning outcomes and thus see how our existing program is in compliance with the proposed standard qualifications



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Revision of Study Programmes

- In this way, we will see:
 - Which learning outcomes from the qualifications standards are covered by our courses?
 - Which learning outcomes have yet to be cover / Which outcomes are not covered?
 - Are they covered by mandatory or elective courses?
 - Are there some unnecessary or redundant courses (especially mandatory courses)?
- What we already see that is necessary to change is:
 - Reducing/changing the ECTS and the content of mathematical courses and courses in physics (at the undergraduate level)
 - Introduction of new elective courses (at the undergraduate and graduate level)
 - Introduction of professional practice in the study program (on both levels)

Instead of a conclusion - the next steps

- When we finish the qualification standards they have to be sent to the Sectoral Council for Information and Communication, which has not yet been established!
- Among other tasks Sector Council is responsible for:
 - validate proposals of units of learning outcomes, occupational standards and qualifications standards
- It also:
 - gives recommendations to the ministry responsible for education and science about changes in qualifications standards based on changes detected in occupational standards
 - gives recommendations to the ministry responsible for labour about changes in the National Classification of Occupations

Instead of a conclusion - the next steps

- CROQF and harmonization of study programs is well-designed reform, but the instability and the (non) existence of our government promises no imminent realization of the idea
- Let's hope it will not be so!



**Thank You for your
attention!**

