

Joint EU/CoE Project
Strategic Development of Higher Education and Qualification Standards



4th Workshop on Qualification and Occupational Standards
29-30 September 2014, Jahorina

Working group tasks after the fourth common workshop	
1. Group, chairperson of the group, members, date and place of the group internal meeting	
Group	Teacher education
Chairperson	Draženko Jorgić
Members	<i>Edina Špago Čumurija – UNMO Samra Međedović – UNMO Marijana Sivrić – SVEMO Ivan Madžar – SVEMO Vanes Mešić – UNSA Draženko Jorgić – UNBL Svetlana Mitić - UNBL Alma Dizdarević – UNTZ Selma Porobić – UNTZ Nevzet Veladžić – UNBIH Haris Muhić – SUS BiH</i>
Date	6 - 8 November 2014
Place	Konjic
2. Finalise the qualifications standard	
The minimal elements of qualifications standard	
1. BASIC CHARACTERISTICS	
1.1 Name(s) of qualification: generic + subject specific	
<i>MSEdu English language and literature</i>	
1.2 Minimal volume	
<i>60 ECTS (total 300 ECTS with first cycle)</i>	
1.3 Level	
<i>VII (seven)</i>	
1.4 Entry routes	
- <i>Completed Undergraduate Studies in English Language and Literature or related studies with equivalence (240 ECTS)</i>	

2. COMPETENCIES / LEARNING OUTCOMES

2.1 Competences at the level of qualification

- Knowledge of background theories for learning and teaching English as a foreign language, teaching principles and underlying linguistic and cognitive theories, in particular the theory of second-language acquisition;
- Knowledge of literature, culture and civilization of the English-speaking countries;
- Ability to apply the most important methods and procedures in teaching children, youth and adults, with special focus on communication approach and innovative forms of learning and teaching;
- Ability to evaluate textbooks, make their own teaching materials, apply new media; familiar with research techniques in view of learning and teaching English language, literature and culture;
- Relevant knowledge of social sciences, psychology, pedagogy and didactics required to professionally and critically reflect on the process of learning and teaching of a foreign language and literature and act independently and creatively.

2.1 Learning outcomes

(organised in Units and other groups /modules, where Units have additional information, e.g. ECTS)

After completing the second cycle of study, students will know/be able to:

The learning outcomes for linguistic and literary courses:

- Defining and interpreting complex linguistic concepts, from fundamental linguistic disciplines to the specific ones such as discourse analysis;
- Interpreting and analysing linguistically complex aspects of language use;
- Writing independently demanding texts, from longer essays to literary reviews;
- Analysing and critically examine various literary works;
- Identifying and analysing different periods in the history of the English language;

The learning outcomes for pedagogical and methodological unit (Second-language and foreign language acquisition, Glotodydactics, Teaching methods used in English language and literature classes, School practical, General pedagogy, Development and education psychology):

- Showing systematic understanding and mastering knowledge in the field of English language and literature, i.e.
- Expanding and/or upgrading the knowledge acquired in the first cycle, which is a basis or opportunity for expressing originality in the process of developing and/or applying ideas, often within a research context;
- Adopting basic didactic and methodological theories and being able to define them;
- Designing, preparing and delivering classes to students of different age;

- Applying knowledge, understanding and problem solving abilities in new or unfamiliar environments within a broader (or multidisciplinary) context related to the English language and literature teaching;
- Selecting and applying different methods in practice in work with students;
- Creating their own teaching materials tailored to different age groups and abilities of students;
- Learning the tenets of the English language acquisition;
- Critically evaluating and selecting appropriate ideas for teaching English language, literature and culture, with a high level of proficiency and creativity in evaluating different methodologies, critical thinking and offering alternative solutions;
- Preparing, conducting and presenting the research on selected aspects of English language and literature; Formulating judgements based on incomplete or limited information, while reflecting on the social and ethical responsibilities related to the application of their knowledge and judgements.

Generic Learning Outcomes (Development and Education Philosophy, Information and Communication Technology, Information Technology in Education, Scientific Methodology):

- ←
- ← - Developing problem-solving skills;
- ← - Developing research skills;
- ← - Communicating their conclusions together with the underlying knowledge and considerations, using the audience-appropriate/adequate language, be it specialised or non-specialised, clearly and unambiguously;
- ← - Raising skills to a higher level, deepening the understanding of English language and literature teaching, and continuously developing their own skills through independent learning and development;
- ← - Further education, mainly in a self-directed and autonomous manner;
- ← - Using a computer for data processing;
- ← - Developing professional ethics;
- ← - Working in a team, when appropriate to different contexts of learning and employment, and demonstrating leadership and/or initiative-taking skills and contributing to the change and development of English language and literature teaching;
- ←

3. RELEVANCE

3.1 Labour market

Upon completion of the master degree, a student will be trained to deliver courses independently. Employment opportunity: in education (pre-school, primary and secondary education, as assistants in higher education institutions), in science institutions, the media, agencies, companies, government institutions, etc.

3.2 Further education / progression

- *Further education - 3rd cycle of study of English language and literature or related studies*

3.3 Other needs

Raising the level of English language and literature proficiency throughout society (in the light of integration and globalisation processes)

4. Quality Assurance

4.1 Working group members

Edina Špago Ćumurija – UNMO

Samra Međedović – UNMO

Marijana Sivrić – SVEMO

Ivan Madžar – SVEMO

Vanes Mešić – UNSA

Draženko Jorgić – UNBL

Svetlana Mitić - UNBL

Alma Dizdarević – UNTZ

Selma Porobić – UNTZ

Nevzet Veladžić – UNBIH

Haris Muhić – SUS BiH

Additional instructions:

- Look for examples of academic programmes for the acquisition of similar qualifications in the relevant foreign universities, or other relevant documents (Tuning, Subject benchmark statements, ...)
 - ***English languages studies in Zagreb and Osijek***
 - ***University of Maribor***
 - ***University of Graz***
- Compare critically your learning outcomes with the learning outcomes in the above mentioned relevant programmes and documents, and if necessary, expand/modify your learning outcomes.
- *Write challenges during the work and overcome*

Problem: If student comes from related faculties or a three-year study programme, the equivalence will be required, which includes the pedagogical and methodological - didactic group of subjects.

3. Only for ICT & Agriculture: Finalise the occupational standard

4. Review qualifications standards of other Groups, and propose changes and amendments (4 examples of QS):

The minimal elements of qualifications standard

1. BASIC CHARACTERISTICS

1.1 Name(s) of qualification: generic + subject specific

1.2 Minimal volume

180 ECTS

1.3 Level

6

1.4 Entry routes

Completed secondary four-year school

2. COMPETENCIES / LEARNING OUTCOMES

2.1 Competences at the level of qualification

After successful completion of the study programme student

- will be able to work independently and in a team, in a national and international contexts;
- will be able to identify, ask about and solve specific problems of organisation;
- will be able to systematically collect, process and analyse data from different sources, using modern information technologies;
- will be able to apply acquired knowledge and managerial skills in practice, i.e. . in commercial, non-profit and public sectors;
- will be able to create and implement business policies in the organisation;
- will have the capacity to generate new business ideas;
- will be able to apply quantitative methods and models in business decision-making.

2.1 Learning outcomes

(Organised in learning outcome Units and other groups /modules, where Units have additional information, e.g. ECTS)

Group of common courses classified by scientific fields	Courses	Learning outcomes	ECST (minimum)
Management and governance	Management	<ul style="list-style-type: none"> - The ability to analyse the business environment; - The ability to analyse, plan, manage human resources and organisation and supervise and evaluate the achieved business targets. 	25
	HRM		
	Organisation		
	Strategic management		
	Entrepreneurship		
Economic theory and policy	Principles of economics	<ul style="list-style-type: none"> - The ability to acquire basic knowledge of economic trends and processes; - Application microeconomic 	15
	Microeconomics		
	Macroeconomics		

		and macroeconomic analysis methods; - Assess the impact of various economic policies on realization of basic macroeconomic objectives.	
Marketing	Marketing	<ul style="list-style-type: none"> - Knowing the basic elements of the marketing mix and marketing management; - Identifying and solving the basic problems of marketing and marketing communications. 	5
International economics	International economics	<ul style="list-style-type: none"> - Knowing the basics of international economic relations; - Capable of classifying the instruments of trade policy and understanding the importance and role of international trade institutions; - Understanding the importance and role of international financial institutions. 	5
Quantitative Economics	Mathematics for Economists	<ul style="list-style-type: none"> - Collecting, processing and analysing data relevant for decision making; - Selecting and applying appropriate statistical methods and models to solve practical problems; - Analysing and applying mathematical models in solving economic problems. 	10
	Statistics		
Economy and financial policy	Monetary economics	<ul style="list-style-type: none"> - Ability to assess the effects of monetary and fiscal policy and a basis for functioning of public sector institutions; - Determining and assessing the advantages and disadvantages of individual sources of financing of an enterprise. 	15
	Public finance		
	Business finance		
Accounting	Accounting	<ul style="list-style-type: none"> - Determining the impact of business events on the net and gross asset value of the company; - Producing and 	7

		analysing financial statements.	
Digital economics	Business Informatics	- Applying information technology in business; - Selecting and using the appropriate software for business decision-making.	10
	Information system management		
Other (Business Law and Foreign Language)	Business Law and Foreign Languages	- Familiar with different legal forms of organisation of companies and the basics of business law; - Familiar with the basic technical terminology for economists.	10

3. RELEVANCE

3.1 Labour market

A wide range of occupations in private, public and non-profit sectors.

3.2 Further education / progression

- *Further education in graduate studies of economics*

3.3 Other needs

4. QUALITY ASSURANCE

4.1 Working group members

1. Prof.dr.sc. Zdenko Klepić, group leader
2. doc. dr.sc. Vaso Arsenović
3. doc. dr.sc. Jasmina Selimović
4. doc. dr. sc. Mladen Rebić
5. doc.dr.sc. Josipa Grbavac
6. doc. dr. sc. Nermin Oruč
7. doc. dr. sc. Jasmina Okičić
8. doc. dr. sc. Saša Tomić – absent
9. doc. dr. sc. Anita Duraković – absent
10. doc. dr. sc. Azra Bajramović - absent
11. mr. sc. Dajana Radović - absent
12. doc. dr. sc. Jasmin Halebić - absent
13. doc. dr. sc. Saša Petković - absent
14. doc. dr. sc. Jelena Poljašević - absent
15. doc. dr. sc. Sabina Đonlagić - absent
16. prof. dr. sc. Mersud Ferizović - had never been in a meeting other than in the very first one

Additional instructions:

- Look for examples of academic programmes for the acquisition of similar qualifications in the relevant foreign universities, or other relevant documents (Tuning, Subject benchmark statements, ...)

- a) We analysed the programmes at Universities of Cambridge, Bath, Ljubljana, Zagreb, Split, Osijek and Belgrade.
- b) Almost all study programmes have a part of programme that is common for all departments, e.g. two years, and a part of the study programme that is department specific.
- c) Each of them contains, in the department specific part of programme, a large number of elective courses.
- d) In some study programmes, such as in the programmes of Cambridge and Bath Universities, students take courses which at universities in the region are commonly envisaged for senior years of study. The reason for this is probably the input knowledge, since students enter not only our faculties but also the faculties in the region with general knowledge rather than specific knowledge of economics.
- e) The courses we identified as common to all B&H faculties involved in the project were compared to the same courses offered in other faculties:
 - a. 15 common courses at all faculties in Bosnia and Herzegovina (observed in the project):
 - i. Beograd – 1 course missing
 - ii. Ljubljana – 2 courses missing
 - iii. Bath – they have all the courses, owing to a large number of elective courses
 - iv. Cambridge – only four courses in common
 - v. Split – 2 courses missing
 - vi. Zagreb – all courses are in common
 - vii. Osijek – 1 course missing.
 - b. 5. courses found in all programmes of study, except in one:
 - i. Beograd – all in common
 - ii. Ljubljana – 1 course missing.
 - iii. Bath – they have all the courses, owing to a large number of elective courses
 - iv. Cambridge – different
 - v. Split – 2 courses missing
 - vi. Zagreb – 1 course missing
 - vii. Osijek – 1 course missing

- Compare critically your learning outcomes with the learning outcomes in the above mentioned relevant programmes and documents, and if necessary, expand/modify your learning outcomes accordingly.

The learning outcomes we analysed were not such as to require that we change the outcomes we developed within the project.

- Write challenges during the work and overcome

The problem was that due to earlier assumed obligations some members of the group were prevented from attending the meeting, but they analysed the material and submitted their contributions via e-mail, thus helping the required comparison exercise.

The minimal elements of qualifications standard

1. BASIC CHARACTERISTICS

1.1 Name(s) of qualification: generic + subject specific

Computer engineer

1.2 Minimal volume

180 ECTS

1.3 Level

6

1.4 Entry routes

Completed four-year high school *or equivalent* thereof.

2. COMPETENCIES / LEARNING OUTCOMES

2.1 Competences at the level of qualification

Knowledge:

- Applying the basic principles and methods of computer science in the broad field of application;
- Applying mathematical and scientific reasoning in a variety of computer problems;
- Designing, implementing properly and documenting solutions to complex problems in the field of computer science.

Application:

- Analysing and comparing alternative solutions to problems in the field of computer science;
- Applying generally accepted principles to the synthesis and analysis of computer systems;
- Designing and implementing software systems in accordance with the system requirement specification;
- Applying advanced algorithmic and mathematical concepts in designing and analysing the software.

Preparation for lifelong learning:

- Participating in team work in designing and implementing the problem solutions in the field of computer science;
- Communicating clearly and accurately in both, oral and written form;
- Thinking critically and creatively, independently and in a team;
- Recognizing the social and ethical responsibilities of professional work;
- Monitoring the development and applying new achievements in the field of computer science.

2.2 Learning outcomes

Group	ECTS (minimum)
Mathematics	16
<ul style="list-style-type: none">• Describing and explaining basic concepts of linear algebra, mathematical	

<p>analysis, discrete mathematics, probability and statistics;</p> <ul style="list-style-type: none"> • Formulating and solving mathematical problems, while corroborating their reasoning; • Selecting and recommending the appropriate model, structure and method for problem solving and statistical inference. 	
The theoretical foundations of computer science	10
<ul style="list-style-type: none"> • Describing and explaining the basic concepts of data structures and algorithms, theory of computation, formal methods and Automata Theory; • Selecting, modelling and analysing an algorithm or a formal method to solve a concrete problem; • Solving problems using standard algorithms for implementation and manipulation of data structures. 	
Programming paradigms and programming languages	18
<ul style="list-style-type: none"> • Describing and explaining the basic programming paradigms: structured programming, object-oriented programming; • Selecting the appropriate programming paradigm and programming language to solve problems; • Programming an application independently, using different programming languages. 	
Operating Systems and System Programming	6
<ul style="list-style-type: none"> • Describing and explaining the architecture of operating system; • Describing and explaining the basic algorithms for process scheduling, memory and peripheral devices management, the organisation of file systems, security; • Selecting and applying the appropriate operating system for various applications. 	
Computer architecture and organisation of computers	10
<ul style="list-style-type: none"> • Describing and explaining the basic principles of construction of digital systems, their analysis and design; • Describing and explaining the basic elements of computer architecture and computer organisation at the level of the circuit; • Designing the combinational logic and sequential circuits; • Developing a simple programme at the assembly/machine level. 	
Computer networks and communications	6

- Describing network standards, concepts, topologies and media, network hardware, network security and different protocols;
- Explaining the organisation of the Internet and describe routing and forwarding of packets in IP networks;
- Evaluating critically the factors that affect the performance of the protocol and implementing a simple reliable protocol, comparing and differentiating between fixed and dynamic allocation techniques and identifying the problem of multiple accesses.

Database and data management

8

- Describing and explaining the basic terms, technologies and principles of the organisation of relational databases, including the aspect of security;
- Designing a database on the conceptual logical and physical levels;
- Using declarative language to create and manipulate the database.

Software Engineering and Software Development

20

- Describing and explaining the basic concepts of software engineering and software development: software processes and methodologies, software lifecycle, project management, software architecture and technology, and user interface;
- Independently applying different techniques for: collecting and analysing the requirements, designing, implementing, testing and upgrading software solutions;
- Playing a specific role in the team for the development of a large software system;
- Participating in the development of software systems for different purposes (desktop, client-server, web, mobile, installation, applications for work in real-time).

Computer and information security

5

- Describing and explaining the basic elements of cryptography and key aspects of security (confidentiality, integrity, availability), the concepts of risk, threats, attacks, authentication, authorization, and access control
- Independently applying, using, monitoring, and maintaining a variety of methods, techniques and tools for the security of computer and information systems.

Foreign languages

5

- Functionally applying the basic vocabulary and syntax of a foreign language in written and oral communication;
- Demonstrating knowledge and skills in using a foreign language relevant to

computer science in written and oral communication.

The final paper / project

6

- Independently resolving (design, implement, document and present) a simple engineering problem in the field of computers science by synthesising the acquired knowledge, skills and competences and using the appropriate technical literature.

Minimum 110 ECTS.

Maximum number of ECTS for courses not pertaining to computer science, electrical engineering and mathematics. 30 ECTS.

3. RELEVANCE

3.1 Labour market

- *Software Engineer (systems analyst, software architect, programmer/developer, software quality controller, maintenance officer)*
- *Information system administrator*
- *Computer system administrator*
- *Technical support engineer for computer systems*
- *Teacher of informatics and computer science in elementary school*

3.2 Further education / progression

- *Continued education in the second cycle of study in the field of computer science (computer science, software engineering, computer engineering, information technology, information systems);*
- *Continued education in a related second cycle programme of study;*
- *Promotion to higher professional positions by acquiring formal and informal qualifications.*

3.3 Other needs

*The general need for computerisation of society;
Improvement of functional literacy.*

4. QUALITY ASSURANCE

4.1 Working group members

All interested parties:

- *Members of ICT working group;*
- *Universities;*
- *Ministries;*
- *Employers in this field.*

Additional instructions:

- Look for examples of academic programs for the acquisition of similar qualifications in the relevant foreign universities, or other relevant documents (Tuning, Subject benchmark statements, ...)
- Compare critically your learning outcomes with the learning outcomes in the above mentioned relevant programmes and documents, and if necessary, expand/modify your learning outcomes accordingly.
- Write challenges during the work and overcome

The minimal elements of qualifications standard**1. BASIC CHARACTERISTICS****1.1 Name(s) of qualification: generic + subject specific**

Bachelor of Civil Engineering

1.2 Minimal volume

180 ECTS

1.3 Level

six (6)

1.4 Entry routes

Completed secondary four-year school

2. COMPETENCIES / LEARNING OUTCOMES**2.1 Competences at the level of qualification**

- Detecting, recognizing, describing and solving technical construction problems, while adhering to the moral principles;
- Designing buildings at the basic level;
- Scaling of a minor building structure in the area of civil engineering, hydraulic engineering and construction building;
- Leading a minor construction work;
- Participating in the planning, designing, installing, monitoring and maintaining of major construction works;
- Using common computer tools for creating documents, presentations, budget implementation and simulation;
- **Recognizing** the interaction between designing, construction and user requirements;
- **Preparing and conducting** an experiment and analyse and interpret the results
- Critically evaluating arguments, assumptions and data prior to decision-making, and solve technical problems in a creative way;
- **Understanding** the impact of engineering on society and environment;
- Communicating and exchanging information and ideas on issues related to civil engineering profession with appropriate experts within and outside the profession;

- Cooperating with expert groups and adjusting to working environment requirements;
- **Understanding** the impact of engineering on society and environment, and taking a clear moral and ethical approach to technical problem solving
- Preparing and conducting an experiment and analysing and interpreting the results;
- *Independently advancing and developing the competencies acquired during education and explore the possibilities of taking active part in specialized professional conferences.*

2.1 Learning outcomes

(organised in Units and other groups /modules, where Units have additional information, e.g. ECTS)

o **Mathematics and Physics (min 30 ECTS)**

- Understanding and applying basic and advanced concepts of analysis, algebra and numerical mathematics necessary for modelling and optimisation for solving practical engineering problems;
- Assessing the quality of the obtained solutions, their practical applicability and feasibility, and monitoring their implementation;
- Describing, understanding and applying the basic concepts of probability and statistics and advanced methods that are needed to describe and solve problems in the profession;
- Describing and analysing the basic laws of physics elaborated in the lectures and practically apply acquired knowledge to solve simple problems and tasks, focusing on the content that facilitate mastering vocational courses;
- Evaluating and applying the basic knowledge of spatial geometry, and make 2D and 3D projections applicable in practice;
- Describing examples of non-methodological approaches of descriptive statistics and probabilistic analysis, distinguishing methods for evaluation of errors, hypothesis testing, etc. in the field of architectural practice.

o **Foreign language (min 3 ECTS)**

- Communicating (read, write, speak) in a foreign language, in general and at the professional level.

o **ICT (min 6 ECTS)**

- Developing independent software solutions of mathematical problems in some of the programming languages;
- **Using** the basic knowledge and software drawing packages;
- Using computers in designing and analysing the structure and making calculations.

o **Theory of Structures I (min 30 ECTS)**

- Distinguishing and analysing the basic theoretical laws of statics as part of mechanics and defining the transverse forces of statically determined structures;
- Describing and analysing theoretical laws of kinematics and rigid body dynamics, and the basic tenets of the system oscillation theory with one degree of freedom;
- Commenting and analysing the theory of stress, strength and stability of engineering structures; Making calculations and sizing of a simple statically defined and statically undefined structures;

- Solving various problems of mechanics of rigid deformable bodies;
- Describing the geometric invariance and laws of kinematic stability of linear structures;
- Defining, analysing and calculating the statics of liner and plate structures as well as of the walls.

○ **Building constructions I (min 12 ECTS)**

- Distinguishing and describing the basic stages of historical development of construction building;
- Analysing and developing the parts of main project and detailed design of a simple construction.

○ **Building materials (min 10 ECTS)**

- Distinguishing the basic building materials and their properties;
- Examining the properties of building materials;
- Designing and carrying out the experiments, analysing and interpreting the data.

○ **Theoretical and applied hydrodynamics (min 4 ECTS)**

- Commenting on stationary movement of fluids, hydraulics of open streams and groundwater;
- Making minor engineering calculations of the flows in pipelines, channels and water intakes.

○ **Geology and Geotechnics (min 6 ECTS)**

- Describing the properties of soil needed for the calculation;
- Calculating the bearing capacity of foundations, settlement, consolidation, slope stability, earth pressure on retaining structures;
- Describing and analysing the structure of the Earth, the lithosphere in particular, to distinguish the processes and phenomena on the surface of the lithosphere and comment on the occurrence of earthquakes, volcanoes and orogeny (mountain building);
- Describing the basic tenets of load calculation and dimensioning of geotechnical structures (retaining walls, bulkheads, foundation pits, excavations and embankments);
- Sizing the shallow and deep foundations.

○ **Theory of Structures II (min 5 ECTS)**

- Describing the dynamic properties of structures;
- Making dynamic analysis of simple structures according to the current Regulations for the construction of buildings in seismic areas;
- Participating in the development of dynamic calculations for simpler structures.

○ **Building constructions II (min 30 ECTS)**

- Detailed designing of a classic reinforced concrete structure;
- Scaling the cross sections subjected to bending, shear and torsion, slender pressed elements, biaxial carrier plate, spot supported plate;
- Determining the state of cracks in sections in a state of usability;
- Describing the basic theoretical tenets pertaining to structures made of the various materials (concrete, wood, metal and brick);

- Scaling the cross-sections and connections and extensions to the simple structures;
- Designing the systems, components or processes required for designing, taking into account the economy, the environment, social, political, ethical, health and safety features and sustainability.

○ **Utility and water processing engineering (min 5 ECTS)**

- Exploring and evaluating the functions of a water supply and sewerage system and of its elements;
- Choosing the best option in the process of planning, designing, construction and management of water supply and sewerage systems and their functional elements.

○ **Hydraulic structures and plants (min 4 ECTS)**

- Reviewing and exploring the basic functions of hydraulic structures, primary supporting processes and applying basic methods in designing and constructing of the hydraulic structures.

○ **Hydrology and Water Resources Management (min 4 ECTS)**

- Exploring and analysing the components of the hydrological cycle;
- Applying mathematical and statistical methods for solving engineering-hydrological problems;
- Creating elementary hydrological calculations in hydraulic engineering.

○ **Roads (min 3 ECTS)**

- Describing, analysing and corroborating the procedures of designing and constructing of railway lines;
- Classifying the basic elements of railways, as well as ways of planning, designing and maintenance;
- Designing a road project outside the settlement up to the level of the preliminary design with a full understanding of the conditions of optimal elements (geometry, route).
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○ **Geodesy (min 3 ECTS)**

- Distinguishing and using plans and maps;
- Performing basic geodetic operations such as measuring of angles and detailed levelling.

○ **Construction management 4 ECTS)**

- Distinguishing the basic principles and methods of organisation, planning and management and execution of construction projects
- Commenting on legislation governing the contracting and execution of construction projects;
- Developing and implementing a project of construction organisation and plans in practice.

○ **Economy and law (min 3 ECTS)**

- Describing and defining: market principles, supply and demand, the economic organisation of enterprises, entrepreneurship;
- Distinguishing the costs, analysing the business results in the

production and determining the business success indicators.

- Deepening the knowledge necessary to understand the impact of engineering solutions on global economic and social environment.

o **Professional Practice (min 3 ECTS)**

- Describing, analysing and critically evaluating the possibility of solving certain practical problem;
- Communicating and working in a multidisciplinary team;
- Confirming professional and ethical responsibility;
- Recognizing the need for lifelong learning.

3. RELEVANCE

3.1 Labour market

- *Jobs of a site manager,*
- *Associate designer in an engineering office*
- *Associate in the administration (town planning and inspection services)*
- *Teachers in secondary school of civil engineering and architecture (provided that they passed pedagogical courses)*

3.2 Further education / progression

- *Continued education in the 2nd cycle of appropriate programme of study*

3.3 Other needs

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4. QUALITY ASSURANCE

4.1 Working group members

UISA: prof. dr Mitar Perušić

UISA: prof. dr Goran Tadić

UNBI: prof. dr Ifet Šišić

UNBL: mr. Bojana Grujić

UNMO: prof. dr Dragi Tiro

UNSA: doc. dr Naida Ademović

UNTZ: prof. dr. Sandira Eljšan

UNTZ: prof. dr. Suad Halilčević

IUS: prof. dr. Haris Gavranović

UNZE: prof. dr Edin Berberović

5. Criteria for the institution that awards qualifications

The institution needs to meet all the criteria stipulated by the Law on Higher Education as well as the norms and standards.

5. Only for ICT & Agriculture: Review occupational standards of the other Group, and give suggestions and comments:

6. Write challenges during the work and overcome.

- The problem of defining the name of qualification (master/holder of MA degree? Science/Occupation?)
- Titles in the groups of Economics, ICT and Engineering - Our suggestion: Minimum standard for the teaching occupations must be the same for all types of schools and fields (minimum of 60 ECTS for pedagogical, psychological, didactic and methodical group of subjects - e.g. through optional modules).