

**LEVELS (QUALIFICATIONS) DESCRIPTORS OF “CIVIL ENGINEERING” SECTORIAL QUALIFICATIONS FRAMEWORK
FOR HIGHER EDUCATION OF THE REPUBLIC OF ARMENIA**

EDUCATIONAL LEVEL (QUALIFICATION)		1 ST (BACHELOR)	2 ND (MASTER)
General description (characteristic) of the Qualification		<ul style="list-style-type: none"> A Bachelor of Engineering qualification degree qualifies individuals who have broad and coherent knowledge and skills in Civil Engineering and a range of related fields to undertake professional work and/or further study. 	<ul style="list-style-type: none"> A Master of Engineering qualification degree is granted to individuals who have deep knowledge and skills in Civil Engineering to carry out professional activity and research, and /or to continue their education.
KNOWLEDGE	1. Knowledge and understanding	<ul style="list-style-type: none"> Demonstrates a basic knowledge of construction and field advanced practice, traditional and new technologies and building materials, as well as is aware of modern research and practical work in the field. Demonstrates basic knowledge of mathematics and natural sciences related to the field. Demonstrates knowledge of basic and modern concepts, theories and methods of engineering systems and processes. Demonstrates a general knowledge of adjacent subjects regarding the construction and other interdisciplinary subjects. Carries out the activities in the professional field, demonstrates general knowledge in the field of urban development, environment and cultural heritage protection. 	<ul style="list-style-type: none"> Demonstrates advanced knowledge of mathematics and basic natural sciences, as well as a significant degree of the professional knowledge in some specific areas of construction. Demonstrates comprehensive knowledge and understanding of modern theories and methods of construction and surrounding areas, which will allow carrying out independent research management and conceptual development of the engineering systems and processes. Demonstrates advanced knowledge and understanding on the domestic and international requirements / norms and conventions of the construction industry.

SKILLS	2. Applying knowledge and understanding	<ul style="list-style-type: none"> • Using modern and innovative techniques can apply knowledge and understanding to identify, formulate, and analyze the processes related to construction and solve engineering problems, taking into account ethical, social, legal, environmental and economic factors, as well as work safety and hygiene rules. • Can critically and systematically use his/her knowledge to analyze and present a range of activities on the basis of relevant information. • Can use his/her knowledge during project planning, engineering research, design, construction, management, operation and monitoring within relevant authorization. 	<ul style="list-style-type: none"> • Can apply advanced research methods in the construction field to obtain new information and knowledge based on the theory and practice. • Can apply the latest scientific findings and, based on current literature and other sources of information, develop practical knowledge. • Can apply innovative, competitive methods for theoretical and practical problem solving in the field of construction and/or interdisciplinary areas in the condition of limited information.
	3. Communication, ICT and numeracy skills	<ul style="list-style-type: none"> • Has interpersonal communication and teamwork skills and ethical responsibilities. • Can communicate by native and at least by one foreign language, negotiate effectively, present and explain to professional and non-professional society information, ideas, problems, facts and solutions. • Can use the necessary methods, skills and modern tools, including information and communication technologies, to solve problems and to facilitate the work in the professional field. • Can collect, process and interpret quantitative and qualitative data related to the field to carry out logical justifications and necessary analysis of the construction process. 	<ul style="list-style-type: none"> • Can apply professional communication means to communicate on national and international levels with a professional and non-professional audience, and to present the conclusions and research findings. • Can apply advanced information and communication technologies to solve new, complex problems and to carry out research in a relevant field. • Can manage human resources and planning processes. • Can carry out deep analysis and evaluation of quantitative and qualitative data related to professional and/or interdisciplinary areas to draw conclusions and make decisions in the condition of incomplete or limited information.

	<p>4. Generic cognitive skills (including making judgments)</p>	<ul style="list-style-type: none"> • Is able to present critical and self-critical thinking. • Is able to understand the role of principles and approaches of the leader (manager) and leadership (management). • Is able to understand the interactions of technical and environmental aspects and take them into account during planning, designing and implementing construction works maintaining the requirements of quality assurance and standards of the field. • Is able to demonstrate a creative approach during the identification of field challenges and proposing of solutions, as well as the skills to adapt to new situations and to learn. 	<ul style="list-style-type: none"> • Can independently and professionally develop and manage the construction works and make appropriate decisions by ensuring safety rules. • Can explore, formulate and justify new ideas related to construction, and propose innovative/creative approaches for solving the theoretical or practical problems of the field. • Can propose different technical and technological solutions if needed. • Can analyze and critically evaluate the results of his/her and others' work.
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COMPETENCE	5. Autonomy and responsibility (including learning skills)	<ul style="list-style-type: none">• Is able to operate within the framework of granted authority, to make decisions and take responsibility for the team members and their professional development, maintaining democratic principles.• Can develop separate parts of design documents of the construction objects within authority and professional specialization (based on the requirements of the urban development documents).• Can consider experts' opinions and specify procedural documents and reports.• Can present relevant information within the framework of the granted authority.• Is able to realize the professional, ethical and environmental responsibility of a construction engineer and understand the impact of decisions made for the construction works in general and public context.• Can work within an interdisciplinary team and assess the role and multiculturalism of related disciplines.• Can promote through his/her activity the dissemination of national and universal values.• Is able to identify his/her educational needs and make decision regarding further study.	<ul style="list-style-type: none">• Is able to make new decisions on strategic management in complex and unfamiliar situations of the work based on appropriate professional, historical cultural, ethical, and sustainable development aspects.• Can independently manage the functions associated with teamwork, and take professional and legal responsibility for the work of other team members contributing to the development of the civil society.• Can perform the work of development and design of product, processes and systems, taking into account the needs of individuals and society, as well as the objectives of sustainable development.• Is able to identify independently his/her own needs for further education and undertake ongoing development of his/her competences and skills• Is able through own activity to promote dissemination of national values, historical cultural experience and universal human values.
	Workload in ECTS credits	180-240	60-120