

OCCUPATIONAL QUALIFICATION STANDARD

Software Developer, EstQF Level 6

An occupational qualification standard is a document which describes the set of skills, knowledge and attitudes, i.e. competence requirements, needed to successfully accomplish duties. Occupational qualification standards are used for compiling curricula and awarding qualifications.

Occupational title	Level of Estonian Qualifications Framework (EstQF)
Software Developer, EstQF Level 6	6

Part A DESCRIPTION OF WORK

A.1 Description of work
<p>Software Developers identify the customer's needs and create a functional and value-adding software system in cooperation with the customer. They ensure the required quality of the software by using the best practices and standards and participating in the implementation of the developed solution.</p> <p>Software Developers choose the appropriate tools and methods according to the nature of the task and understand the context of the created solution. They assess the complexity of systems and keep the solution as simple as possible.</p> <p>Software developers assess an existing information system and see how it could be improved.</p> <p>They participate in team work and take a suitable role in it.</p> <p>They understand information technology principles and business and management principles and are aware of information technology development trends and their impact on the software.</p> <p>Software Developers work indoors, mainly seated, with risk factors including forced positions when working with a computer and strain on the eyes. Software Developers cooperate with customers and colleagues of various national and cultural backgrounds. Team members may be geographically distant from one another.</p> <p>The European ICT Competence Framework (e-CF) is the basis for describing Information and Communications Technology (ICT) occupations.</p>
A.2 Tasks
<p>A.2.1 Designing a software solution in cooperation with the customer (e-CF competence A.5)</p> <p>A.2.2 Analysis and selection of the solution's architecture (e-CF competence A.5)</p> <p>A.2.3 Participating in/conducting the development process (e-CF competence B.1)</p> <p>A.2.4 Implementation of the software system (e-CF competence B.2)</p> <p>A.2.5 Testing (e-CF competence B.3)</p> <p>A.2.6 Solution implementation/installation/adoption (e-CF competence B.4)</p> <p>A.2.7 Software system support (e-CF competence C.1)</p>
A.3 Professional preparation
<p>Software Developers are usually people with specialised applied higher education or higher education. Vocational skills may also be acquired through further training or training at the workplace.</p>
A.4 Most common occupational titles
<p>Software developer, programmer, software tester, leading software developer.</p>
A.5 Regulations governing profession
<p>There are no regulations governing the occupation.</p>

Part B

COMPETENCY REQUIREMENTS

B.1 Structure of occupation	
The occupation consists of general skills (B.2) and mandatory competences (B.3.1-B.3.7).	
B.2 General skills of Software Developer, EstQF Level 6	
1) in their work they rely on their knowledge of programming languages and development tools, design patterns, algorithms and data structures, databases and their uses, user interface development technologies and patterns and the legal framework of software; 2) they have general knowledge of business operation principles and the functioning of the organisation; 3) they treat the customer's needs rationally and set realistic expectations in order to support a deepening of mutual trust; 4) they take into account the interests of the organisation when setting personal professional goals and use the organisation's resources responsibly and prudently; 5) they take responsibility for their own actions within the limits of their competence; 6) they process the information entrusted to them in accordance with the existing procedure and legislation; 7) they consider ethical beliefs and values important and draw attention to unethical practices; 8) they participate in teamwork; 9) they recognise the contribution of others; 10) they compare personal competence with the level of difficulty of a task and choose the appropriate behaviour; 11) they speak Estonian at the B1 level and English at the B2 level (see Annex 1).	
B.3 Competences	
B.3.1 Designing a software solution in cooperation with the customer (e-CF competence A.5)	EstQF Level 6
Performance indicators: 1. cooperates with the customer to develop, implement and deploy a complete software solution; 2. identifies the customer's needs and restrictions (requirements); 3. compiles the initial tasks and recommends suitable technologies; 4. learns about the field and models the components; 5. constantly includes the customer and requests and provides constant feedback.	
B.3.2 Analysis and selection of the solution's architecture (e-CF competence A.5)	EstQF Level 6
Performance indicators: 1. plans simple system architecture using familiar technologies; 2. designs interfaces taking into account existing system architecture; 3. considers performance requirements; 4. complies with data security principles and security requirements.	
B.3.3 Participating in/conducting the development process (e-CF competence B.1)	EstQF Level 6
Performance indicators: 1. organises their work in order to develop a functioning solution, following the principles of software development; 2. participates in teamwork; 3. applies the development methodology; 4. acts based on the customer's priorities.	
B.3.4 Implementation of the software system (e-CF competence B.2)	EstQF Level 6
Performance indicators: 1. creates a functioning software system following best practice; 2. writes sustainable source code and unit tests; 3. produces simple interfaces; 4. uses existing source code; 5. is guided by user-centred design/usability principles.	

B.3.5 Testing (e-CF competence B.3)	EstQF Level 6
Performance indicators: 1. validates the expected operation of the system; 2. selects appropriate testing methods; 3. defines, designs and conducts test cases; 4. takes into account the critical nature of specific functionalities; 5. automates the testing process.	
B.3.6 Solution implementation/installation/adoption (e-CF competence B.4)	EstQF Level 6
Performance indicators: 1. bundles the solution; 2. uses the existing infrastructure and process to install the application; 3. installs a simple system in various environments, following best practice, and describes the installation process; 4. delivers the system to the service provider.	
B.3.7 Software system support (e-CF competence C.1)	EstQF Level 6
Performance indicators: 1. monitors the software system using monitoring systems and analysis tools; 2. detects, analyses and resolves error situations; 3. instructs the user.	

Part C

GENERAL INFORMATION AND ANNEXES

C.1 Information concerning compilation and certification of occupational qualification standard and reference to classification of occupations	
1. ID of occupational qualification standard in register of occupational qualifications	08-17102019-1.3/4k
2. Occupational qualification standard compiled by:	Taavi Sepp, Telia Eesti AS Markus Karileet, Helmes AS Heiki Tähis, Atea AS Erik Jõgi, Codeborne OÜ Ago Kuusik, Playtech Estonia OÜ Anti Ainsar, ADM Interactive OÜ Gunnar Piho, TalTech Marina Lepp, Tartu Ülikool
3. Occupational qualification standard approved by:	Information Technology and Telecommunication
4. No. of decision of Sectoral Council	15
5. Date of decision of Sectoral Council	17.10.2019
6. Occupational qualification standard valid until	27.03.2024
7. Occupational qualification standard version no.	4
8. Reference to International Standard Classification of Occupations (ISCO 08)	2512 Software Developers
9. Reference to European Qualifications Framework (EQF)	6
C.2 Occupational title in foreign language	
English:	Senior Software Developer, EstQF Level 6
English:	Software Developer, EstQF Level 6
C.3 Annexes	

Lisa 1 [Language skills level descriptions](#)