European Software Skills Alliance.

EDUCATIONAL PROFILE
ESSA Test specialist
EQF 4/5

This educational profile belongs to the field of Software Engineering and is covered by relevant references in EN 16234-1:2019 (e-CF) and ISO/IEC/IEEE 90003:2018. More specifically, the field of Software Testing is covered by ISO/IEC/IEEE 29119, the ISTQB® TBOK, Software TBOK (ISCB), Software Test Automation BOK (IIST), and TMap® (Sogeti).

Test specialists ensure that software applications and solutions comply with technical, and user needs and specifications. They design, execute, and record tests for software applications or services and report the results in a well-structured manner. They also interact with different stakeholders (e.g., developers, and users) and knows how to communicate their findings effectively.

Test specialists at entry-level make test scenarios for testing the software. They choose an appropriate test form, such as a unit test, integration test, acceptance test, as well as an appropriate test methodology. They determine what is needed for testing, such as the test environment, resources, and test data. They also perform the test(s), interpret the findings, and draw conclusions. During the process, they proactively communicate with the parties involved. They have an inquiring attitude, oversee the coherence, and work in a structured manner within clear boundaries.

Learn more:

The Erasmus+ project ESSA (European Software Skills Alliance) aims to skill, upskill, and reskill individuals into high-demand software roles across the EU.

About this profile

This profile is for educating people with or without previous ICT knowledge who can (support the) design of tests and perform testing plans in order to ensure delivered or existing products, applications or services comply with technical and user needs and specifications.

The profile has an EQF 4/5 level. No prior knowledge of the topic is required.

This level requires:
- **Autonomy:** Works independently within specified boundaries and resolves issues which arise from project activities.
- **Context:** Structured – predictable context, well-defined concrete, and abstract problems.
- **Content**: Common factual and theoretical knowledge that underpins the field of work or vocation in the local situation.

Competences

e-CF competences (incl. e-CF level)	General competences (incl. EQF level)
B.2. Component Integration [e-2]	P. Profession-related competences (EQF5)
B.3. Testing [e-2]	I.S. Interpersonal soft competences (EQF5)
B.4. Solution Deployment [e-2]	P.S. Personal soft competences (EQF5)
B.5. Documentation Production [e-2]	F.O. Functioning in organisations (EQF5)
E.3. Risk Management [e-2]	

Deliverables

Learners should master the following deliverables:

- Test cases, test scripts, test conditions, and test plans
- Automated testing task(s)
- Configured test environment
- Test result documentation/ test report
- Integration test result report
- (Part of) release documentation
- (Parts of) different (common) technical documents
- Risk analysis
- Appropriate actions to handle risk
- (Parts of) a risk-based testing results report
- Report on the application of a method, technique or tool related to a new technology
- Self-reflection report
- Report on functioning in an organisation

Professional perspectives

Upon completing this programme, the learner is eligible to apply for **junior test specialist positions**, such as Software tester - ICT system tester - ICT integration tester - ICT accessibility tester - ICT usability tester - Digital games tester - Test automation engineer

The learner may continue in a **Bachelor programme** with a focus on more advanced tools, technologies and architectures.

The learner has a proper base for further training and certification on testing process and test management, be skilled at advanced testing techniques, or gain an understanding of core technical testing concepts, such as structure-based testing and other analytical testing techniques.

Programme Learning Outcomes (PLO)

1. PLO Component Integration [e-2]

The learner has demonstrated capability
→ to integrate efficiently a software application or component into an existing system
→ to document the installation activities

Unit learning outcomes	Explains and distinguishes common methods, techniques and tools related to efficient integration
	Describes the interplay between and compatibility of system components
	Selects the relevant integration testing techniques, to ensure the system meets requirements
	Monitors and tests the connectivity of integrated systems
	Writes an **integration test result report**

2. PLO Testing [e-2]

The learner has demonstrated capability
→ to test a software application or component
→ to document test outcomes

Unit learning outcomes	Explains and distinguishes principles of software testing, common testing methods, techniques, and tools
	Designs **test cases, test scripts, test conditions, and test plans** for given requirements
	Automates repeatable **testing tasks**
	Configures a **test environment**
	Performs manual and automated test activities, applying testing and debugging techniques and tools
	Records and interprets test outcomes and writes **test result documentation/ test report**

3. PLO Solution deployment [e-2]

The learner has demonstrated capability
→ to implement (parts of) a solution or software application or component
→ to provide (part of) release documentation

Unit learning outcomes	Executes relevant tests during and after a solution/ software release, applying appropriate methods, techniques, and tools
	Writes (parts of) release documentation related to the verification and validation of solutions and services

4. PLO Documentation Production [e-2]

The learner has demonstrated capability
→ to draft technical documentation

Unit learning outcomes	Describes types of technical documentation
	Provides different (parts of) **common technical documents**, using appropriate tools (e.g. software documentation tools)

5. PLO Risk management [e-2]

The learner has demonstrated capability
→ to apply risk management principles to perform common risk analysis of ICT solutions and services
→ to propose actions to handle risks

Unit learning outcomes	Applies practices, principles, methods, tools and techniques related to risk-based testing
	Performs a **risk analysis** with identification and assessment of risks of IT solutions and services

	Proposes **appropriate actions to handle risks,** taking into account relevant conditions (e.g., risk/security exceptions, risk acceptance)
	Writes **(parts of) a risk-based testing results report**

6. PLO Profession related competences [EQF5]	
The learner has demonstrated capability → *to apply profession related skills*	
Unit learning outcomes	Masters common **ICT knowledge**
	Explains the principles, related concepts, advantages and disadvantages of a **new technology**. Applies and reports on basic methods, techniques and tools related to a new technology.
	Applies and reports on measures, methods, tools and techniques related to **security**
	Applies and reports on measures, methods, tools and techniques related to **software lifecycle processes**
	Is aware of basic **ethical considerations** and issues

7. PLO Soft competences [EQF5]	
The learner has demonstrated capability → *to apply soft skills*	
Unit learning outcomes	**Works** together with others **in a team**
	Communicates with peers, colleagues, supervisors and or relevant other, appropriately to the context, using conventions that are relevant to professional practice. Explains and gives instruction.
	Masters the **English language** at a level B2. Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation
	Distinguishes and analyses fairly complex and unpredictable problems. **Solves** these **problems systematically** and in a creative way, using existing procedures and guidelines and own solutions by identifying and using data.
	Exercises **self-management** within the guidelines of contexts that are usually predictable, but are subject to change. Is able to cope with limited change and to adapt to a certain level of variety in the workplace. Copes with pressure and stress setbacks and maintains composure. Shows some initiative and carries responsibility for the results of own activities, work and or study. Works correctly and carefully.
	Realises **learning and personal development** on request, where necessary with support, through self-reflection and external- and self-evaluation of own (learning) results.

8. PLO Soft competences [EQF5]	
The learner has demonstrated capability → *to function in an organisational context*	
Unit learning outcomes	Explains basics of **organisation theory and behaviour**
	Describes the relationship between **business and IT**
	Works in an organisational context under specific direction with limited autonomy and responsibility e.g., at the level of a trainee, junior or assistant
	Works in project settings, applies **project management** methods and tools
	Writes **a report on functioning in the organisation**

Assessments

Unit learning outcome	Assessment method	Validation of prior acquired competences (skills and knowledge)
1.1	Exam	Certification
1.2	Exam	Certification
1.3	Exam	Certification
1.4	Practical assignment	Assessment (of skills)
1.5	Report	Assessment (of report)
2.1	Exam	Certification
2.2	Exam	Certification
2.3	Practical assignment	Assessment (of skills)
2.4	Practical assignment	Assessment (of skills)
2.5	Practical assignment	Assessment (of skills)
2.6	Report	Assessment (of report)
3.1	Practical assignment	Assessment (of skills)
3.2	Practical assignment	Assessment (of skills)
4.1	Exam	Certification
4.2	Practical assignment	Assessment (of skills)
5.1	Practical assignment	Assessment (of skills)
5.2	Practical assignment	Assessment (of skills)
5.3	Practical assignment	Assessment (of skills)
5.4	Report	Assessment (of report)
6.1	Exam	Certification
6.2	Practical assignment	Assessment (of skills)
6.3	Report	Assessment (of report)
7.1	Exam	Certification
7.2	360º assessment	360º assessment
7.3	Practical assignment	Assessment (of skills)
7.4	Practical assignment	Assessment (of skills)
7.5	Exam	Certification
8.1	360º assessment	360º assessment
8.2	360º assessment	360º assessment
8.3	Exam	Certification
8.4	Practical assignment	Assessment (of skills)
8.5	Self-reflection report	Assessment (of report)
9.1	Exam	Certification
9.2	Exam	Certification
9.3	360º assessment	360º assessment
9.4	Report	Assessment (of report)