Program competencies

Integral competence: Ability to solve complicated specialized tasks and practical problems in software engineering characterized by complexity and uncertainty of conditions using theories and methods of information technology.

General competencies (GC):

- GC 1. Ability to abstract thinking, analysis and synthesis.
- GC 2. Ability to apply knowledge in practical situations.
- GC 3. Ability to talk in a state language both orally and in written form.
- GC 4. Ability to communicate in a foreign language both orally and in written form.
- GC 5. Ability to learn and acquire contemporary knowledge.
- GC 6. Ability to find, process and analyze information from different sources.
- GC 7. Ability to work in a team.
- GC 8. Ability to act based on ethical considerations.
- GC 9. Desire to preserve the environment.
- GC 10. Ability to act in a socially conscious manner.
- GC 11. Ability to exercise your rights and obligations as a member of society, realize values of civil (democratic) society and need for its steady growth, supremacy of law, rights and freedoms of individuals and citizens in Ukraine.
- GC 12. Ability to keep and multiply moral, cultural, scientific values and achievements of society based on the understanding of history and regularities of subject area development, its place in the general system of knowledge about nature and society and in the evolution of society, engineering and technologies, as well as to use different types and forms of physical activity for outdoor activities and a healthy lifestyle.

Specialized (professional, subject) competencies (SC):

- SC 1. Ability to identify, classify and formulate software requirements.
- SC 2. Ability to take part in software design, including modeling (formal description) of its structure, behavior and operational processes.
- SC 3. Ability to develop architectures, modules and components of software systems.
- SC 4. Ability to formulate and ensure software quality requirements in accordance with customer requirements, terms of reference and standards.
- SC 5. Ability to comply with specifications, standards, rules and guidelines in the professional sector when implementing life cycle processes.
- SC 6. Ability to analyze, select and apply methods and tools for information security (including cybersecurity).
- SC 7. To know data information models, ability to develop software to store, mine and process data.
- SC 8. Ability to apply fundamental and interdisciplinary knowledge to successfully solve software engineering problems.
- SC 9. Ability to assess and consider economic, social, technological and environmental factors affecting professional activities.
- SC 10. Ability to accumulate, process and systematize professional knowledge of software engineering and maintenance; to recognize the importance of lifelong learning.
- SC 11. Ability to implement phases and iterations of the life cycle of software systems and information technology based on appropriate software development models and approaches.
- SC 12. Ability to conduct the system integration process, apply change management standards and procedures to maintain software integrity, overall functionality and reliability.
- SC 13. Ability to reasonably select and learn software development and maintenance tools.
- SC 14. Ability to think algorithmically and logically.