

BURGAS STATE UNIVERSITY
"PROF. DR. ASSEN ZLATAROV"



APPROVED BY:

RECTOR:

(Prof. Dr. Hristo Bozov, MD)

QUALIFICATION CHARACTERISTICS
of a specialist with professional qualification:
"COMPUTER ENGINEER"

Field of Higher Education:	Technical Sciences
Professional Field:	5.3 Communication and Computer Technology
	Level 6, Sublevel 6B (according to the national qualification framework)
Specialty:	Computer Systems and Technologies
Educational Qualification	
Degree	Bachelor
Professional Qualification:	Computer Engineer
Form of Study:	Full-time (Part-time)

OBJECTIVES OF THE SPECIALTY

This qualification characteristic of a Computer Engineer with a Bachelor's degree in "Computer Systems and Technologies" defines the professional purpose, qualification requirements, and areas of professional realization. The Bachelor Engineer must have a broad-based education and be prepared to work in all areas where computer and communication technologies find practical application. The main goal of the training is to prepare highly qualified and broadly skilled specialists in computer systems and technologies for various organizations. Specifically, it aims to develop specialists with knowledge and skills to ensure the integrity, security, and availability of computer systems within these organizations, as well as engineers capable of designing and implementing necessary technical solutions.

PROFESSIONAL SKILLS OF THE SPECIALIST

The Bachelor program in "Computer Systems and Technologies" is designed to train professionals with strong theoretical knowledge and practical skills. A Computer Engineer is prepared to perform tasks in design, programming, research, management, and other activities in the field of information technology. A Bachelor degree holder in "Computer Systems and Technologies" can:

- Design, implement, and test software products.
- Apply information technologies in various sectors of the economy.
- Independently enhance their knowledge and skills.
- Conduct research, design, and plan the development of computer systems and technologies.
- Implement and integrate computer systems and technologies in industrial and non-industrial sectors.
- Manage and organize technical and software-related activities within computer system

KNOWLEDGE, SKILLS, AND COMPETENCIES

The training for obtaining a Bachelor degree in "Computer Systems and Technologies" includes specialized and in-depth preparation aligned with the requirements of the educational qualification level. The preparation of specialists involves acquiring extensive knowledge in the following areas:

- Mastering the fundamentals of scientific and applied activities.
- Developing the ability to adapt to social, economic, and technological changes.
- Building and maintaining computer infrastructures and networks.
- Designing and implementing information systems.
- Applying artificial intelligence methods.

A specialist in "Computer Systems and Technologies" earns a **Bachelor degree** after completing a **four-year** educational program. The training consists of **43 courses**—mandatory, elective, and optional; **3 academic internships**, **1 industrial internship**, **3 coursework assignments**, and **6 course projects**. The **mandatory courses** provide fundamental and professional training. The **elective courses** allow specialization in computer systems and information technology. The program concludes with a **state examination in the 8th semester**.

A. KNOWLEDGE

A Bachelor degree holder in "Computer Systems and Technologies" should have a solid theoretical and technical background, specialized knowledge in software and hardware systems, and strong practical experience gained through internships. The Computer Engineer should:

- Have fundamental knowledge in mathematics, physics, electrical engineering, electronics, and digital circuit design.

- Understand computer architecture and hardware infrastructure.
- Master system and application software for computer systems.
- Be proficient in procedural, object-oriented, and declarative programming under different operating systems.
- Have knowledge of computer networks, communications, databases, and information systems.
- Possess specialized knowledge in computer systems and technologies.

B. SKILLS

The Bachelor's degree holder in "Computer Systems and Technologies" should be proactive, independent, and responsible in solving assigned tasks. They should be able to:

- Formulate and solve complex problems by applying deep technical and specialized knowledge.

- Design, develop, and test software products.
- Assess the need for and implement IT solutions in various industries.
- Work in interdisciplinary teams.
- Prepare technical documentation, presentations, and defend their ideas using modern technological tools.
- Plan and carry out lifelong professional development.

B. PERSONAL AND PROFESSIONAL COMPETENCIES

B.1. Independence and Responsibility

- Manage professional activities effectively.
- Take responsibility for decision-making in complex situations.
- Demonstrate creativity and initiative in managerial roles.
- Assess the need for training others to improve team efficiency.

B.2. Learning Competencies

- Continuously evaluate their knowledge and plan further education accordingly.
- Choose appropriate forms of continued education in line with national and European qualification frameworks.

B.3. Communication and Social Competencies

- Clearly and effectively present ideas, problems, and solutions to specialists and non-specialists.
- Demonstrate understanding of issues related to computer systems, technologies, and secure coding.
- Communicate proficiently in major European languages, particularly English.

B.4. Professional Competencies

- Collect, classify, analyze, and interpret data in computer systems and security-related fields.
- Apply acquired knowledge and skills in high-tech environments.
- Analyze problems in an interdisciplinary context.
- Use strategic approaches and express independent opinions on professional and ethical

issues.

CAREER OPPORTUNITIES

Graduates with a Bachelor degree in "Computer Systems and Technologies" are prepared for professional realization in areas such as:

- Software Developers
- Network Administrators
- IT Implementation and Support Specialists
- Managers in IT-related Departments

Graduates can also pursue a Master's degree at Burgas State University „Prof. Dr. Assen Zlatarov Burgas“.

The qualification characteristics have been approved by the Departmental Council of the Department of "Computer Systems and Technologies," Protocol No. 9/14.03.2025, the Faculty Council of the Faculty of Technical Sciences, Protocol No. 25./20.03.2025, and the Academic Council of Burgas State University "Prof. Dr. Assen Zlatarov," Protocol No. 33./27.03.2025.

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