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Kyiv National University of Technologies and Design

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COMPUTER SCIENCE

Educational programmes → Bachelor's Degree Programs

Faculty of Mechatronics and Computer Technologies

Specialty 122 **«Computer Science»**

Educational program **«Computer Science»**

Educational degree «bachelor»

DEPARTMENT OF COMPUTER SCIENCE

Address: 2, Nemyrovych-Danchenko St, Kyiv, 01011, Educational building 4, Room 4-1108

For more information: +38044-256-84-14

e-mail: kitp@knutd.edu.ua

Level of education:

The first (bachelor's) level of higher education.

Training is conducted by state order and at the expense of individuals or legal entities.

To become 1st year-students of a bachelor's degree program in full-time or part-time study forms, entrants take exams in competitive subjects (EIT).

Upon successful completion of their studies, graduates receive a diploma of higher education of the established state standard in the specialty 122 Computer Science, Bachelor's degree in Computer Science. The course length is 3 years and 10 months (full-time or part-time study forms).

Students of the Department of Computer Science, after obtaining a bachelor's degree have the opportunity to continue their master's degree program in "Computer Science" and obtain a qualification "Master of Computer Science" in the relevant master's program.

Admission to a bachelor's degree program is conducted in accordance with ***«Rules of Admission to Kyiv National University of Technologies and Design».***

Phones and contacts of the Admissions Committee:

Address: 2, Nemyrovych-Danchenko St, Kyiv, 01011, Educational building 4, 2nd floor.

Phone for inquiries: +38044-256-29-75

e-mail: pk@knutd.edu.ua

Students majoring in Computer Science receive a bachelor's degree in computer science and can be employed in organizations and institutions operating in the field of light industry and others and able to solve complex specialized problems and practical problems in the field of information technology or in the learning process, which involves the use of theories and methods of information technology and is characterized by complexity and uncertainty of conditions.

The educational programs develop individual perception and creative thinking of students, and highly qualified teachers of the Department with practical experience provide an educational and professional program according to qualifications, meeting the profile and direction of the courses taught; have the necessary experience in pedagogical work and experience in practical work. In the process of organizing training, professionals with experience in research/management/innovation/creative work and/or work in the specialty are involved.

After completing their studies, students acquire the following skills:

- apply knowledge of the basic forms and laws of abstract-logical thinking, the basics of the methodology of scientific knowledge, forms and methods of extraction, analysis, processing, and synthesis of information in the subject area of computer science.
- use a modern mathematical apparatus of continuous and discrete analysis, linear algebra, analytical geometry, in professional activities to solve problems of theoretical and applied nature in the design and implementation of information objects.

- use knowledge of the laws of random phenomena, their properties and operations on them, models of random processes and modern software environments to solve problems of statistical data processing and construction of predictive models.
- use methods of computational intelligence, machine learning, neural network and fuzzy data processing, genetic and evolutionary programming to solve problems of recognition, prediction, classification, identification of control objects, etc.
- design, develop and analyze algorithms for solving computational and logical problems, evaluate the efficiency and complexity of algorithms based on the use of formal models of algorithms and computational functions.
- use methods of numerical differentiation and integration of functions, solution of ordinary differential and integral equations, features of numerical methods and possibilities of their adaptation to engineering problems, and have skills in software implementation of numerical methods.
- use methods of operations research, solving one - and multicriteria optimization problems of linear, integer, nonlinear, and stochastic programming.
- use the methodology of system analysis of objects, processes, and systems for the tasks of analysis, forecasting, management and design of dynamic processes in macroeconomic, technical, technological, and financial objects.
- develop software models of subject environments, choose a programming paradigm from the standpoint of convenience and quality of application for the implementation of methods and algorithms for solving problems in the field of computer science.
- Use tools for developing client-server applications, design conceptual, logical, and physical models of databases, develop and optimize queries to them, create distributed databases, repositories, and storefronts, knowledge bases, including cloud services, using languages WEB -programming.
- have the skills to manage the life cycle of software, products, and services of information technology in accordance with the requirements and restrictions of the customer, be able to develop project documentation (feasibility study, terms of reference, business plan, agreement, contract, contract).
- apply methods and algorithms of computational intelligence and data mining in the tasks of classification, forecasting, cluster analysis, search for associative rules using software tools to support multidimensional data analysis based on technologies DataMining, TextMining, WebMining.
- have the skills in system programming languages and methods of program development that interact with the components of computer systems, know network technologies, computer network architectures, have practical skills in computer network administration technology and their software.
- apply knowledge of methodology and CASE-tools for designing complex systems, methods of structural analysis of systems, object-oriented design methodology in the development and study of functional models of organizational-economic and production-technical systems.
- perform parallel and distributed calculations, apply numerical methods and algorithms for parallel structures, parallel programming languages in the development and operation of parallel and distributed software.

Students are provided with modern educational and methodical literature and information about the latest technologies in computer science.

The place of professional activity of the bachelor in Computer Science is:

enterprises, organizations, and institutions operating in the field of light industry. The graduate can work in the following positions: database administrator; data administrator; access administrator;

system administrator; computer software engineer; software engineer; programmer (database); application programmer; computer application engineer; information technology specialist; software development and testing specialist; specialist in computer program development.

3rd and 4th year-students of the Department of Computer Science have the opportunity to receive military education and a state diploma.

Students of all study forms may be admitted to military training (based on Kyiv National University of Technologies and Design that conducts military training of students under the reserve officer training program together with the National Defense University of Ukraine with subsequent officer rank). Both male and female students can undergo military training if they wish.

All students of the Faculty of Mechatronics and Computer Technology, who live in cities and towns outside of Kyiv and the Kyiv region, are provided with accommodation in a hostel located near the educational buildings.

Teachers of the Department and students during the educational process and defense of diplomas