

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
CHERNIHIV NATIONAL TECHNOLOGICAL UNIVERSITY**

SCIENTIFIC AND EDUCATIONAL PROGRAM

**BRANCH OF
KNOWLEDGE
SPECIALTY**

12 – INFORMATION TECHNOLOGY

**EDUCATIONAL
LEVEL**

**122 - COMPUTER SCIENCE AND
INFORMATIONAL TECHNOLOGIES
THIRD (EDUCATIONAL SCIENCE)**

Profile of the program	
Doctor of Philosophy in Computer Science and Information Technology	
Diploma type and scope of work	Diploma of Doctor of the Philosophy, first scientific degree, 4 academic years, 60 credits EKTC
Institution of higher education	Chernihiv National Technological University, Chernihiv
Accrediting institution	Ministry of Education and Science of Ukraine, Ukraine, Peremohy avenue, 10, Kiev, 01135
Period of accreditation	2016 year
Program level	QF for EHEA - third cycle, EQF for LLL - 8 level
A	The purpose of the program
	To provide, on the basis of the master's degree, the training of scientific and scientific-pedagogical staff in the field of computer sciences and information technologies by obtaining them the competences sufficient for carrying out original scientific researches, the results of which have scientific novelty, theoretical and practical significance, also their support during the preparation and defense of the dissertation.
B	Characteristics of the program
1	Subject area (branch of knowledge) Computer Science and Information Technology (12- Information technology)
2	Focus Programs: general/ special Third (educational and scientific) higher education level according to the Law of Ukraine "On Higher Education", the eighth qualification level of the National Qualifications Framework. General. Investigation of the laws concerning: - theoretical and methodological foundations and tools for the creation and use of information technologies and systems in various fields of human activity; - development of evaluation criteria and methods for ensuring quality, reliability, fault tolerance, survivability of information technologies and systems, also principles of optimization and models and methods of decision-making under conditions of uncertainty when creating automated systems for various purposes; - research of the patterns of construction of information communications. Development of scientific and methodological foundations for the creation and application of information technologies and information systems for the automated processing of information and management.. Special. - development of scientific and methodological foundations for the creation and application of information technologies and information systems for the automated processing of information and management; - development of information technologies for the analysis and synthesis of structural, informational and functional models of objects and automated processes; - development of models and methods for automation of the functions and tasks of production and organizational management in conventional and multi-level structures on the basis of creation and use of new information technologies;

		<ul style="list-style-type: none"> - construction of information technologies for the development and implementation of databases, knowledge bases and computer support systems solutions in automated systems and networks; - creation of information technologies for research, development and implementation of communication protocols and tools for the construction of universal and specialized computer systems and networks, including computer education systems; - development of theoretical and applied bases for building information technologies for the automation of functional tasks of control, analysis and evaluation of the effectiveness of automated information processing and management systems; - creation of information technologies for system analysis, research, development of architecture and methods of construction of multilevel, geographically dispersed computer systems and networks with distributed databases and knowledge, in particular for commercial purposes; - construction of information technologies for effective software development of computer networks and distributed data processing systems; - the creation of information technology for the development of models and methods for control, classification, coding and reliability of information, also for mathematical modeling of errors in data exchange paths in information telecommunication networks; - modeling of subject areas of information systems (analytical, imitative, infological, object-oriented, etc.) on the basis of the creation and application of appropriate information technologies; - development of information retrieval and expert systems of information processing for decision-making, as well as knowledge oriented systems of decision support in conditions of risk and uncertainty as intelligent information technologies; - development of information technologies for construction and implementation: automated systems of technical diagnostics, geoinformation systems of various purposes and computer systems of electronic business; - creation of information technologies for the development of models, methods and tools for automation of information retrieval and telecommunication systems, networks and means of information provision of libraries, museums and archives (electronic catalogs, computer workstations, computer bibliography, automated document import systems, etc.); - development and research of models and methods of quality assessment and increase of reliability, functional safety and survivability of information and information management systems, also information technologies for the creation of reliable automated systems for information processing and critical application management; - research, development and implementation of Internet technologies for the construction of service-oriented systems, also for the organization and implementation of distributed information processing systems.
3	Program orientation	Research and application. Scientific researches on creation of new information technologies, mathematical, algorithmic and software of computer systems, which will be widely practical application.