

The syllabus of the discipline
Information and communication technologies

Yu. V. Skorik,
Associate Professor of INE dept, Ph.D., Associate Professor
E-mail: yuliia.skoryk@nure.ua

Field name	Detailed content, comments
Name of the faculty	Faculty of Infocommunications
Level of higher education	Second (master's)
Code and name of the specialty	172 Telecommunications and radio engineering
Type and name of educational program	EPP "Information and Network Engineering"
Name of the discipline	Information and communication technologies
Number of ECTS credits	3
Discipline structure (distribution by types and hours of study)	14 hours - 7 lectures, 8 hours - 4 practical classes, 16 hours - 4 laboratory classes, 10 hours - 5 consultations, 32 hours - homework, type of control: credit
Schedule (terms) of studying the discipline	1st year, II semester
Prerequisites for studying the discipline	Basic concepts of academic disciplines: "Technology optical communication", "Network technologies".
Competences, knowledge, skills, understanding, which is acquired by the applicant in higher education in the learning process	The discipline is used to form the following competencies: to be able to assemble an information system from ready-made components, to support the work of information systems and technologies, adapt applications to new requirements.
The quality of the educational process	Educational-methodical and material-technical resource provision of the educational program, within the framework of which the discipline is studied, meets the licensing requirements and accreditation conditions of the educational activity of the university. Annual monitoring and revision of the curriculum of the discipline in accordance with the requirements and recommendations of the Ministry of Education and Science, state certification of acquired competencies of graduates, standards of cooperation with employers to ensure a competitive level of training. Adherence to the principles of academic integrity (https://lib.nure.ua/plagiat). Contains public information on the requirements, competencies, level of education within the current educational program

Description and content of the discipline

According to the qualification requirements for higher education in the specialty 172 Telecommunications and Radio Engineering the purpose of the discipline is to provide students with knowledge, skills and abilities in the field of modern information and communication technologies, which are the basic basis for the development and implementation of currently popular specialized service platforms and remote control systems and open education, telemedicine, e-document management (eg e-government systems, e-elections, etc.), as well as service platforms focused on providing information and communication services to ordinary users within the concept of next generation networks.

Content

Topic 1. The concept of information technology.

Topic 2. Modern information technologies and their types.

Topic 3. Problems and prospects of using information technology.

Topic 4. Quality of service in infocommunications.

Topic 5. OLAP-technologies.

Topic 6. The concept of Global Information Infrastructure (GII).

Learning outcomes of higher education

As a result of studying the discipline, students must:

KNOW: modern information technologies, quality of service in infocommunications, the concept of global information infrastructure.

BE ABLE: to assemble an information system from ready-made components, to support the work of information systems and technologies, to adapt applications to new requirements.

Assessment system according to each task for passing the test / exam

To assess the student's work during the semester, the final rating Qsem is calculated as the sum of grades for different types of classes and grades for control activities.

Type of lesson / control measure	Rating
Lb №1,2,3,4	$(10...15) \times 4 = 40...60$
Control testing	20...40
Total for the semester	60...100

Each laboratory work is evaluated at 15 points (3 points for work, 2 points for preparation for the lesson, 10 points for defense). As a control measure, an auditory test task is provided - 40 points. Weight of one task 2 points. The maximum rating during the semester is 100 points

The test is used as a form of final control in the discipline "Information and Communication Technologies".

Qualitative evaluation criteria in the national scale and ECTS

Satisfactory, D, E (60-74). Have a minimum of knowledge and skills. Work out everything practical classes, work out and defend all laboratory work and DCR, perform tests.

Well, C (75-89). Firmly know the minimum. Practice all practical classes, practice and defend all laboratory work and DCR, perform tests, be able to comment on the basic principles, technologies and protocols of NGN, the principles of quality assurance in MMZ, the main components of IMS architecture.

Excellent, A, B (90-100). Firmly know all the topics. Navigate in textbooks and manuals. Practice all practical classes. Work out and defend all laboratory work, tests and DCR. Thoroughly know the features, principles and technologies of NGN construction, their protocols of interaction and signaling, architectural models of quality assurance in NGN, architecture and components of the IMS concept.

Assessment scale: national and ECTS

The sum of points for all types of educational activities	ECTS assessment	Score on a national scale	
		for exam, course project (work), practice	for offset
90 – 100	A	perfectly	credited
82-89	B	fine	
74-81	C	satisfactorily	
64-73	D		
60-63	E		
35-59	FX	unsatisfactory with the possibility of reassembly	not credited with the possibility of re-assembly
0-34	F	unsatisfactory with mandatory re-examination	not credited with compulsory re-study of the discipline

Methodical support

Basic literature

1. Provalov V.S. Avtomatyzyrovannye informatsyonnye tekhnolohyy upravleniya / V.S. Provalov. - Kyrov: Yzd-vo ViatHHU, 2008. - 250s.
2. Semenov Yu. A. Telekommunikatsyonnye tekhnolohyy [Elektronnyi resurs]. – Rezhym dostupa <http://book.itep.ru>.
3. Shuvalov V.P., Velychko V.V., Subbotyn E.A., Iaroslavtsev A.F. Telekommunikatsyonnye systemy y sety. Tom 3. Multyservysnye sety (2005).
4. Nazarov A. N., Symonov M. V. ATM: tekhnolohiya vysokoskorostnykh setei. – M.: ЭКО-TRENDZ, 1999. – 252 s.
5. Codd, Edgar F. Providing OLAP to User-Analysts: An IT Mandate // Computerworld. - T. 27, № 30. - ISSN 0010-4841. Arkhyvyrovano yz pervoystochnyka 11 noiabria 1998.
6. Ynformatsyonnaia entsyklopedyia / pod red. B.N. Topornyna. - M.: Yuryst, 2008. - 1272 s.
7. Kuznetsov P.U. Ynformatsyonnye tekhnolohyy / P.U. Kuznetsov. - M.: Yurait, 2011. - 422 s.
8. Ostreikovskiy V.A. Ynformatyka / V.A. Ostreikovskiy. — Moskva, Vysshaia shkola, 2010. - 430 s.
9. Shafryn Yu.A. Ynformatsyonnye tekhnolohyy: Ofysnaia tekhnolohiya y ynformatsyonnye systemy / Yu.A. Shafryn. - M.: Laboratoriya Bazovykh Znanyi, 2011. - 410 s.
10. Robert Y. Sovremennyye ynformatsyonnye tekhnolohyy v obrazovanii.– M.: Shkola-Press, 1994.
11. Elektronnyi resurs: <https://uk.wikipedia.org/wiki/OLAP>.
12. V. F. Kolomiets. Mizhnarodna informatsiina systema // Ukrainska dyplomatychna entsyklopediia: U 2-kh t./Redkol.:L. V. Huberskyi ta in. - K.:Znannia Ukrainy, 2004 - T.2 - 812s.

Methodical instructions for different types of classes

13. Metodychni vказivky do samostiinoi roboty z dystsypliny „Informatsiino-komunikatsiini tekhnolohii”.
14. Metodychni vказivky do laboratornykh robit z dystsypliny „Informatsiino-komunikatsiini tekhnolohii”.