

The syllabus of the discipline  
*Entry to the profession*

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Field name	Detailed content, comments
Name of the faculty	Faculty of Infocommunications
Level of higher education	First (bachelor'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	Entry to the profession
Number of ECTS credits	3
Discipline structure (distribution by types and hours of study)	20 hours - 10 lectures, 16 hours - 4 laboratory classes, 6 hours - 3 consultations, 48 hours - homework, <b>type of control:</b> credit
Schedule (terms) of studying the discipline	1st year, I semester
Prerequisites for studying the discipline	Basic knowledge of school subjects
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 use the acquired knowledge in the process of further study
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 ( <a href="https://lib.nure.ua/plagiat">https://lib.nure.ua/plagiat</a> ). Contains public information on the requirements, competencies, level of education within the current educational program.

## **Description and content of the discipline**

The purpose of the discipline is to acquaint freshmen with the chosen specialty, master the basic concepts, terms and principles of telecommunications and information networks, get a general idea of infocommunications, students gain basic knowledge about the profile of their training, professional development and employment prospects.

### **Content**

#### **Content module 1. Basic concepts and elements of infocommunications.**

Topic 1. Basic concepts and terminology in infocommunications. The structure of the course of study of the discipline "Introduction to the profession".

Topic 2. Global information infrastructure. Infocommunication services.

Topic 3. Reference model of interaction of open OSI / ISO systems. Characteristics of OSI layer protocols.

Topic 4. Regulatory framework for the functioning of infocommunications

Ukraine. Features and basic principles of infocommunications development in Ukraine.

#### **Content module 2. Principles of functioning of telecommunication and information networks and systems.**

Topic 1. General information about signals. Basic principles of information processing and transmission.

Topic 2. Types of communication lines and the feasibility of their use.

Topic 3. Principles of functioning of infocommunication networks.

Fixed network networks.

Topic 4. Principles of functioning of mobile communication systems and networks.

Topic 5. Principles of functioning of the global Internet.

#### **Content module 3. Features of training in the field of infocommunications.**

Topic 1. Curriculum for training specialists and disciplines studied during the study at the first level of education.

Topic 2. Blocks of elective disciplines.

Topic 3. The place of a specialist in the field of infocommunications in the modern development of scientific and technological progress. Direction of professional development and employment prospects.

### **Learning outcomes of higher education**

As a result of studying the discipline, students must:

know: basic concepts, terms and basic principles of functioning of infocommunications, as well as the principles of training and curriculum structure in the chosen specialty.

be able to: use the acquired knowledge in the process of further training

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

To assess the work of a student during the semester, the final rating score  $Q_{\text{sem}}$  is calculated as the sum of marks for different types of classes and control activities.

Type of lesson / control measure	Rating
Lb № 1, 2	2x15=30
Control testing 1	10
<b>Checkpoint 1</b>	<b>40</b>
Lb № 3,4	2x15=30
Control testing 2	10
IHW (abstract)	20
<b>Checkpoint 2</b>	<b>60</b>
<b>Total for the semester</b>	<b>100</b>

As a form of final control for the discipline is used test. To get a test you need to know the main topics of the discipline, work out and defend all laboratory work, write tests, prepare and defend an abstract.

### Qualitative evaluation criteria in the national scale and ECTS

**Satisfactory, D, E (60-74).** Show the required minimum of theoretical knowledge. Know the ways and methods of solving practical problems and be able to use them in practice.

**Well, C (75-89).** Firmly know a minimum of theoretical knowledge. Demonstrate the ability to solve a practical problem and justify all stages of the proposed solution.

**Excellent, A, B (90-100).** Show complete knowledge of basic and additional theoretical material. Unmistakably solve a practical problem, explain and justify the chosen method of solution.

### 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	<b>A</b>	perfectly	credited
82-89	<b>B</b>	fine	
74-81	<b>C</b>		
64-73	<b>D</b>	satisfactorily	
60-63	<b>E</b>		
35-59	<b>FX</b>	unsatisfactory with the possibility of reassembly	not credited with the possibility of re-assembly
0-34	<b>F</b>	unsatisfactory with mandatory re-examination	not credited with compulsory re-study of the discipline

## Methodical support

### Basic literature

1. Bezruk V.M. Informatsiini merezhi zviazku. Chastyna 1. Matematychni osnovy informatsiinykh merezh zviazku: navch. posibnyk / V.M. Bezruk, Yu.M. Bidnyi, A.V. Omelchenko – Kh.: KhNURE, 2011.
2. Bezruk V.M. Informatsiini merezhi zviazku. Chastyna 2. Telekomunikatsiini tekhnolohii statsionarykh merezh zviazku: navch. posibnyk / V.M. Bezruk, Yu.M. Bidnyi, Yu.M. Koltun ta in.– Kh.: KhNURE, 2011. – 505 s.
3. Bezruk V.M. Informatsiini merezhi zviazku. Chastyna 3. Merezhi mobilnoho zviazku: navch. posibnyk / V.M. Bezruk, V.V. Yemelianov, S.A. Kryvenko – Kh.: KhNURE, 2011. – 420 s.
4. Bezruk V.M. Informatsiini merezhi zviazku. Ch. 4. Tekhnolohii nadannia informatsiinykh posluh: navch. posibnyk / V.M. Bezruk, V.M. Korolov, V.A. Zolotarov ta in.– Kh.: KhNURE, 2011. – 424 s.

### Supporting literature

1. Telekomunikatsiini ta informatsiini merezhi: Pidruchnyk dlia VNZ / P.P. Vorobiienko, L.A. Nikitiuk, P.I. Reznichenko – K.: SAMMIT- Knyha, 2010. – 708 s.
2. Steklov V. K., Berkman L. N. Telekomunikatsiini merezhi: Pidruchnyk / Steklov V. K., Berkman L. N. – K.: Tekhnika, 2001. – 392 s.
3. Osnovy infokomunikatsiinykh tekhnolohii : navch. posibnyk / A. P. Bondarchuk, H. S. Srochynska, M. H. Tverdokhlib. – Kyiv : DUT, 2015. – 76 s.
4. Velychko, V. V. Osnovy ynfokommunikatsiionnykh tekhnolohiyi : [uchebnoe posobye dlia vuzov] / V. V. Velychko, H. P. Katunyn, V. P. Shuvalov; pod red. V. P. Shuvalova. – 2-e yzd., pererab. y dop. – Moskva : Horiachaia linyia-Telekom, 2016. – 724 s.

### Methodical instructions for different types of classes

1. Metodychni vkazivky do samostiinoi roboty iz dystsypliny «Vstup do fakhu» dlia studentiv spetsialnosti 172 Telekomunikatsii ta radiotekhnika, spetsializatsii Telekomunikatsii, Informatsiino-merezhna inzheneriia / Uporiad.: D.V. Chebotarova.– Kharkiv: KhNURE, 2017.
2. Metodychni vkazivky do vykonannia laboratornykh robit iz dystsypliny «Vstup do fakhu» dlia studentiv spetsialnosti 172 Telekomunikatsii ta radiotekhnika, spetsializatsii Telekomunikatsii, Informatsiino-merezhna inzheneriia / Uporiad.: D.V. Chebotarova. – Kharkiv: KhNURE, 2017.