The syllabus of the discipline

Business processes in infocommunications

V.A. Zolotarev,
Associate Professor of INE, Ph.D., Associate Professor
E-mail: vadym.zolotarov@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	Business processes in infocommunications
Number of ECTS credits	3
Discipline structure (distribution by types and hours of study)	14 hours - 7 lectures, 16 hours - 4 laboratory classes, 4 hours - 2 practical classes, 6 hours - 3 consultations, 48 hours - homework, type of control: credit
Schedule (terms) of studying the discipline	1-st year, II semester
Prerequisites for studying the discipline	Previously, the disciplines for the first (bachelor's) level of education in the specialty 172 Telecommunications and Radio Engineering should be studied.
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: FC-2 Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions and the possibility of intellectual property, to find ways and opportunities to implement scientific ideas in profitable business projects and startups. FC-3 Ability to system thinking, solving problems of development, planning, optimization and modernization of information communication networks. FC-5 Ability to formulate the novelty and relevance of research work, lead a scientific discussion and present the results of research on a given topic in the field of telecommunications. FC-6 Ability to use information technology, methods of intellectualization and visualization, artificial intelligence, cloud computing for research and analysis of processes in information communication networks. F-7 Ability to demonstrate and use fundamental knowledge of the principles of construction of modern information communication networks, information transformation and storage systems, promising areas of their development. F-8 Ability to demonstrate and use knowledge of modern computer and information technologies and tools of engineering and research, calculations, data processing and analysis, evaluation of systems efficiency and methods of assessing the quality of functioning, modeling and optimization of information communication networks.F-

	13 Ability to choose the best research methods, modify and adapt existing ones, develop new research methods in accordance with existing technical means and form a methodology for processing research results. F-14 Ability to assess problem situations and shortcomings in the design, installation, configuration, operation and operation of information networks, formulate proposals for solving problems and eliminating shortcomings. F-16 Ability to carry out project activities and project management.
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

The purpose of the discipline is to acquire basic knowledge and practical skills that will be used by them in performing tasks to improve business processes in telecommunications systems, design information systems and their software using CASE technologies.

Content

Content module 1.

Topic 1. General information about business processes

Topic 2. The content and structure of business processes of telecommunications enterprises

Topic 3. Modeling and automation of business processes in infocommunications

Content module 2.

Topic 1. BPMN

Topic 2. UML language. Usage diagrams

Topic 3. Diagrams of states, activities and sequences, deployment and synchronization

Topic 4. Technologies for organizing workflows in infocommunications

Learning outcomes of higher education

As a result of studying the discipline, students must:

know: basic business processes in infocommunications; features of designing infocommunication networks with the help of CASE-technologies and CASE design tools; methods of business process modeling, stages of UML development; concepts of diagrams, notations and metamodels; tasks of analysis and design of

infocommunications; stages of the process of developing a business model of infocommunications.

be able to: use IDEFO diagrams to describe business processes; create reports with built-in RAMUS tools; build TO-BE diagrams ("how to be"); use functional-cost analysis to assess the effectiveness of business processes; use diagrams describing the logic of the interaction of works to describe the subject area using the IDEF3 standard; create Node Tree and Swim Lane organization charts; use data flow charts to describe the subject area.

list of competencies: PRN-1 Be able to analyze the current state of information networks in order to develop scenarios for the development, modernization of existing or design of new information networks of any size and for various purposes. PRN-2 Be able to use modern software to manage information networks at all levels of the hierarchical model. PRN-6 Be able to choose and effectively use information technology to support business.

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

To evaluate the student's work during the semester, the final $O_{сем}$ is calculated as the sum of grades for different types of classes and control activities.

Types of classes / control event	Rating
Laboratory works № 1, 2	(6…10) x 2 = 12….20
Test work №1	(12…20) = 12…20
Checkpoint № 1	**24…40**
Laboratory works № 3, 4,	(6….10) x 2 = 12….20
Test work №1	(12…20) = 12…20
Control task	(12…20) = 12...20
Checkpoint № 2	**36…60**
Total result	**60…100**

As a form of final control for the discipline is used credit.

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.

Good, 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	**A**	perfectly	credited
82-89	**B**	fine	
74-81	**C**		
64-73	**D**	satisfactorily	
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. Tekhnolohii nadannia informatsiinykh posluh: navch. Posibnyk / Bezruk V.M., Korolov V.M., Zolotarov V.A., Botsman P.D., Kostromytskyi A.I., Astrakhantsev A.A.,Kapusta S.O. . – Kharkiv:KhNURE,2011.
2. Ostelverder A., Pinie I. Stvoriuiemo biznes-model. Novatorski idei dlia vsikh i dlia kozhnoho. – K.; Nash format, 2017. – 287 s.
3. Rozrobka informatsiinykh resursiv i system: Elektronne navchalne vydannia. Konspekt lektsii/ L.S. Hloba; T.M.Kot. – K.: NN ITS NTUU «KPI», 2014 – 320 s.

Supporting literature

1. Telyshevskyi O.M., Tsehelyk H.H., Viter M.B., Diduk V.I. Informatsiini tekhnolohii ta modeliuvannia biznes-protsesiv. Navchalnyi posibnyk. – K., «Vydavnytstvo «Tsentr uchbovoi literatury», 2012. – 296 s.

Methodical instructions and literature for different types of classes

1. Metodychni vkazivky do laboratornykh robit z dystsypliny «Biznes protsesy v infokomunikatsiiakh»» dlia studentiv usikh form navchannia napriamu spetsialnosti 172 «Telekomunikatsii ta radiotekhnika» [Elektronnyi dokument] / Uporiad.: V.A. Zolotarov, V.M.Kobtseva – Kharkiv: KhNURE, 2018. – 86 s.
2. Metodychni vkazivky do vykonannia kontrolnoho zavdannia z dystsypliny «Biznes-protsesy v infokomunikatsiiakh» dlia studentiv usikh form navchannia spetsialnosti 172 «Telekomunikatsii ta radiotekhnika» osvitno-profesiinykh prohram

«Informatsiini merezhi zviazku», «Informatsiino-merezhna inzheneriia» [Elektronnyi dokument] / Uporiad.: V.A. Zolotarov. – Kharkiv: KhNURE, 2018. – 13 s.

Information support

1. Original software