The syllabus of the discipline

Development of Web-applications for IoT

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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	Development of Web-applications for IoT
Number of ECTS credits	3
Discipline structure (distribution by types and hours of study)	22 hours - 11 lectures, 4 hours - 2 practical classes, 16 hours - 4 laboratory classes, 6 hours - 3 consultations, 42 hours - homework, **type of control**: credit
Schedule (terms) of studying the discipline	4th year, VIII semester
Prerequisites for studying the discipline	The basis of successful mastering of the course is the knowledge gained by students while studying courses "Web - programming", "Basics of Web Design"
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: Design databases in the WEB-space; Create databases and connect them to the MySQL server using PHP; Install and configure LAMP and WAMP; Create Web applications for IoT.
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 form a modern level of information and computer culture, to acquire practical skills in creating interactive technologies, to acquaint students with the theoretical foundations of creating hypertext documents based on HTML standards and PHP language; consideration of common Web programming technologies and their classification; acquaintance with the scope of various standards and tools for creating Web - content; as well as acquiring skills of practical creation of Web - applications for IoT by various means.

Content

Content module 1.
Topic 1. Introduction to dynamic content of web pages
Topic 2. Basics of PHP
Topic 3. PHP. Arrays and strings
Topic 4. PHP. Conditional operators.
Content module 2.
Topic 1. Creating a database using PHP myAdmin
Topic 2. Basic database operations
Content module 3.
Topic 1. Basics of Linux OS
Topic 2. Server connection and basic Linux commands
Topic 3. Batch manager management and work with nano text editor
Topic 4. Development of Web-applications for IoT.

Learning outcomes of higher education

As a result of studying the discipline, students must:
know:
- Basics of programming in PHP;
- Linux OS commands

be able:
- Design databases in the WEB-space;
- Create databases and connect them to the MySQL server using PHP;
- Install and configure LAMP and WAMP software packages
- Create Web applications for IoT.

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_{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	(12…20)×2 = 18…40
Checkpoint **1**	**24…40**
Lb № 3, 4	(12…20)×2 = 24…40
Control testing 1	12…20
Checkpoint **2**	**36…60**
Всього за 2-й семестр	60…100

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	**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. Vellynh Tomson Razrabotka veb- prylozhenyi s pomoshchiu PHP y MySQL . - M.: 000 "Y.D. Vyliams 2010. - 848 s.
2. Dunaev V.Web-prohrammyrovanye dlia vsekh M.: VAM 2016 - 628 s.

Supporting literature

1. Metiu Makdonald Veb-razrabotka. M.: Pyter 2012 - 608 s.

Methodical instructions for different types of classes

1. Konspekt lektsii z kursu «Rozrobka Web-dodatkiv dlia IoT» dlia studentiv usikh form navchannia napriamu 6.050903 – Telekomunikatsii"–Kh.: KhNURE, 2012. Elektronnyi variant.
2. Metodychni vkazivky do samostiinoi roboty ta praktychnykh zaniat z dystsypliny «Rozrobka Web-dodatkiv dlia IoT» dlia studentiv usikh form navchannia napriamu 6.050903 – Telekomunikatsii Kh.: KhNURE, 2012. Elektronnyi variant.
3. Metodychni vkazivky do laboratornykh robit z dystsypliny «Rozrobka Web-dodatkiv dlia IoT» dlia studentiv usikh form navchannia napriamu 6.050903 – Telekomunikatsii Kh.: KhNURE, 2012.

Information support

1. Package program WAMP
2. Package program LAMP