

## Syllabus of the educational discipline

### «WEB PROGRAMMING»

<b>Cycle of Higher Education</b>	<i>First cycle of higher education (Bachelor's degree)</i>
<b>Field of Study</b>	<i>12 Information Technologies</i>
<b>Specialty</b>	<i>123 Computer engineering</i>
<b>Educational program</b>	<i>Computer systems and networks</i>
<b>Discipline status</b>	<i>Normative</i>
<b>Teaching language</b>	<i>English</i>
<b>Year of studies, semester</b>	<i>3 year (5 semester)</i>
<b>Number of credits ECTS</b>	<i>3.5 credits</i>
<b>Distribution by types of trainings and hours of study</b>	<i>Lectures, Laboratory studies, Independent training</i>
<b>Form of final assessment</b>	<i>Exam</i>
<b>Teacher</b>	<i>Mulesa O.Yu, Doctor of technical sciences, Professor of the department of computer systems and networks</i>
<b>Teacher's contacts</b>	<i>oksana.mulesa@uzhnu.edu.ua</i>
<b>Course Schedule</b>	<i>According to the timetable</i>

*The purpose of studying the educational discipline Web-programming is to familiarize students with current trends in the development of Internet services, with the main standards of data exchange between applications and services on the Internet, with the basic rules of designing websites and Internet services; acquisition of skills in using PHP to create dynamic sites and services on the Internet; mastering by students the basic technological methods of practical application of language programming tools in software product development.*

*As a result of studying the discipline the student must:*

*know:*

- peculiarities of using Ajax calls when implementing a dynamic information environment*
- PHP basics*
- technologies for creating web pages using PHP and MySQL*

*be able to:*

- develop software for embedded and distributed applications, mobile and hybrid systems, calculate, equipment specialties*
- design the architecture of the selected web application, the structure of the database or data repository, a clear understanding of the distribution of functions of the server and client parts of the application, to choose the design and implementation methods that are most appropriate to achieve their goals.*

#### **Prerequisites for learning**

Programming, Object-Oriented Programming, Data Structures and Algorithms, System Software

#### **Content of the educational discipline**

- Topic 1.** Features of web application development
- Topic 2.** Web application architecture
- Topic 3.** Features of the JS programming language
- Topic 4.** Value types
- Topic 5.** Expressions
- Topic 6.** Implementation of algorithms with branching
- Topic 7.** Implementation of loop algorithms
- Topic 8.** Arrays
- Topic 9.** Functions
- Topic 10.** The DOM tree.
- Topic 11.** Event handling. OOP basics
- Topic 12.** Working with the jQuery library
- Topic 13.** Web server
- Topic 14.** Features of Creating Server Scripts with PHP Toolkit
- Topic 15.** PHP Control Operators

**Topic 16.** Basic concepts of the database. Features of DBMS MySQL

**Topic 17.** Accessing MySQL using PHP

**Topic 18.** Ajax technology usage

**Topic 19.** Web programming with PHP frameworks

**Course page on the Moodle platform (personal training system)**

*Syllabus of the educational discipline, hyperlinks to electronic publications of the discipline, recommended literature, students' attendance, lecture materials, presentations, questions for self-control, methodical materials for laboratory works, tests, tasks for checking students' knowledge.* <https://moodle.uzhnu.edu.ua>

#### **Recommended literature**

1. *Danny Goodman JavaScript & DHTML Cookbook.* - O'Reilly Media; 1st edition, 2003. - 576p.
2. *Bryan Pfaffenberger HTML, XHTML, and CSS Bible.* - Wiley; 3rd edition, 2004. 816p.
3. *Robin Nixon Learning PHP, MySQL, JavaScript, CSS & HTML5: A Step-by-Step Guide to Creating Dynamic Websites.* - O'Reilly Media; 3rd edition, 2016. - 786p.

#### **Assessment system of learning outcomes**

*The ECTS grade that a student receives after studying a credit module of a discipline is determined according to the student's rating. A student's credit module rating consists of the points the student receives during the semester for the following types of work:*

*1. Modular control work (MCW) duration of 2 acad. hours each. The maximum number of points for the MCW is 40 points.*

*2. Performance of laboratory works.*

*During the semester, students perform 7 laboratory works - (maximum number of points - 50)*

*Scores on individual and independent work of students are awarded for: preparation of essays, modernization of tasks, creative approach to task performance, performance of tasks to improve didactic materials on the discipline: 0-10 points for each module.*

*Each module is assessed a maximum of 100 points. At the end of the discipline a rating score is derived as the arithmetic average of the points from the two modules.*

#### **ECTS and national grading scale**

Mark scale	ECTS	Exam	Test
90 - 100	A	Excellent	Satisfied
82 - 89	B	Good	
74 - 81	C		
64 - 73	D	Satisfactory	
60 - 63	E		
35 - 59	FX	“Unsatisfactory” with possibility to pass the exam again	“Not satisfied” with possibility to pass the exam again
1 - 34	F	“Unsatisfactory” with obligatory repeated study of the discipline	“Not satisfied” with obligatory repeated study of the discipline