Discipline	WEB Programming code: 20 summer semester	
Specialty	SOFTWARE AND INTERNET TECHNOLOGIES	
ECTS credits: **6**	Form of assessment: Examination	
Lecturer	Assoc.prof. PhD /scientific title/ V.Bozhikova /name/ Room 310 TB / 206 TB Phone: +359 52 383 608 E-mail: vbojikova@tu-varna.bg	
Department	SOFTWARE AND INTERNET TECHNOLOGIES	
Faculty	Faculty of Computer Sciences and Automation	

Annotation: The course teaches ways to generate web content and data exchange between web browser and server scripts based on PHP server scripting language; comment the syntax, PHP coding style and documentation; addresses issues related to the PHP database script interaction, ways to recognize web application users, ways to handle exceptions, and more. It also discusses the interaction of PHP with XML as well as the generation of graphics in PHP. The exercises are practice-oriented, the goal is to acquire skills to design and develop dynamic web sites with a link to MySQL database.

Learning objectives:

- Architecture of web applications and technologies for their creation
- Design and development of web applications with PHP - characteristics
- Methods for transmitting data from client to server and methods of accessing data in PHP script
- Access external files in web applications
- Object-oriented approach to web application development
- Means for recognizing the web application user
- Processing exceptions in web applications
- Interaction of a PHP script with database (SQLite, MySQL, etc.)
- Interaction of PHP and XML

CONTENTS:

Training Area	Hours lectures	Hours seminar exercises
Topic 1. Architecture and technologies for creating WEB applications 1.1. Classification of WEB applications.	2	
Topic 2. PHP syntax, coding style, naming conventions, documentation. Basic and alternative syntax of the control structures. 2.1. The specificity of PHP arrays. Operator foreach.	2	
Topic 3. Methods for transmitting data from the client to the server. Basic formats of HTTP request to the server 3.1. Processing an HTTP query using a PHP script. Methods of access to data. Global arrays $ _GET, $ _POST and $ _REQUEST.	2	
Topic 4. Accessing external data in web applications. File Input / Output. 4.1. Working with PHP files: creating, reading, deleting, checking the existence of a file, etc. 4.2. Working with directories in PHP: basic functions.	2	
Topic 5. Object-Oriented Approach to Web Application Development 5.1. Declaring and using classes in PHP. Visibility. Keyword final. Convention on naming. Automatically load objects (function __autoload ()). Constructors and destructors. 5.2. Static attributes and methods. Cloning objects. Specification of the inheritance (extends). Polymorphism. The synonym parent::.	2	
Topic 6. Object-Oriented Approach to Web Application Development 6.1. Item iteration. Abstract classes. Interfaces (implements and extends operators).	2	
Topic 7. Object-Oriented Approach to Web Application Development 7.1. Dynamically create properties and methods in PHP 7.2. Methods to control undeclared class members. Magical methods in PHP (__set, __get, __call (), etc.).	2	
Topic 8. Means for recognizing the web application user 8.1. Sessions in PHP. 8.2. Working with cookies in PHP.	2	
Topic 9. Processing exceptions in web applications	2	
Topic 10. Using SQLite databases in web applications. 10.1. Basic PHP functions for SQLite database operations (sqlite_open (),	2	

sqlite_query (), sqlite_exec (), sqlite_close (), sqlite_fetch_array (), sqlite_num_rows (), sqlite_num_fields () etc.		
Topic 11. Interaction of PHP script with MySQL database 11.1. PHP MySQL library for access and data processing (mysql_connect (), mysql_query (), mysql_result (), mysql_num_rows (), mysql_close (), etc.)..	2	
Topic 12. Interaction of PHP script with MySQL database via PHP MySQL Improved driver (MySQLi). 12.1. Data access and processing features in MySQL database.	2	
Topic 13. Interaction of PHP script with databases through ODBC (Open Database Connectivity) and MyODBC drivers. 13.1. Php functions for accessing and processing ODBC data (odbc_connect, odbc_exec, odbc_close, odbc_fetch_array, odbc_error, odbc_free_result), with DSN and without DSN (Data Source Name).	2	
Topic 14. Graphics in Web Applications. 14.1. PHP graphics libraries. Basic features for creating and using graphics in Web applications.	2	
Topic 15. PHP functions for processing XML element elements.	2	
Topic 1. PHP syntax, coding style, naming conventions, documentation. Basic and alternative syntax of the control structures.		3
Topic 2. Methods for transmitting data from the client to the server. Basic formats of HTTP request to the server 2.1. Processing an HTTP query using a PHP script. Methods of access to data. Global arrays $ _GET, $ _POST and $ _REQUEST.		2
Topic 3. Accessing external data in web applications. File Input / Output. 3.1. Working with PHP files: creating, reading, deleting, checking the existence of a file, etc. 3.2. Working with directories in PHP: basic functions.		3
Topic 4. Object-Oriented Approach to Web Application Development 4.1. Declaring and using classes in PHP. Visibility. Keyword final. Convention on naming. Automatically load objects (function __autoload ()). Constructors and destructors. 4.2. Static attributes and methods. Cloning objects. Specification of the inheritance (extends). Polymorphism. The synonym parent::.		2
Topic 5. Object-Oriented Approach to Web Application Development 5.1. Item iteration. Abstract classes. Interfaces (implements and extends operators).		2
Topic 6. Object-Oriented Approach to Web Application Development 7.1. Dynamically create properties and methods in PHP		2

7.2. Methods to control undeclared class members. Magical methods in PHP (__set, __get, __call (), etc.).		
Topic 7. Means for recognizing the web application user 7.1. Sessions in PHP. 7.2. Working with cookies in PHP.		2
Topic 8. Processing exceptions in web applications		2
Topic 9. Using SQLite databases in web applications. 9.1. Basic PHP functions for SQLite database operations (sqlite_open (), sqlite_query (), sqlite_exec (), sqlite_close (), sqlite_fetch_array (), sqlite_num_rows (), sqlite_num_fields () etc.		2
Topic 10. Interaction of PHP script with MySQL database 10.1. PHP MySQL library for access and data processing (mysql_connect (), mysql_query (), mysql_result (), mysql_num_rows (), mysql_close (), etc.)..		2
Topic 11. Interaction of PHP script with MySQL database via PHP MySQL Improved driver (MySQLi). 11.1. Data access and processing features in MySQL database.		2
Topic 13. Interaction of PHP script with databases through ODBC (Open Database Connectivity) and MyODBC drivers. 12.1. Php functions for accessing and processing ODBC data (odbc_connect, odbc_exec, odbc_close, odbc_fetch_array, odbc_error, odbc_free_result), with DSN and without DSN (Data Source Name).		2
Topic 13. Graphics in Web Applications. 13.1. PHP graphics libraries. Basic features for creating and using graphics in Web applications.		2
Topic 14. PHP functions for processing XML element elements.		2
TOTAL: 60 h	**30**	**30**