

Academic Architects

Course Data Sheet

Course Number:	WEBTECH-320
Course Name:	Applied Server Side Web Application Design and Development
Level of Effort:	3 Semester Hours or 5 Quarter Hours
Course Level:	Intermediate
Prerequisites:	Introduction to Web Development, HTML, and CSS
Adoption/Use:	Server-Side/Backend Web Development
Subject Area:	Information Technology, Web Development
Release Version:	2020-1

Primary Course Objective: Upon completion of this course students will be able to design, develop, deploy, support, and maintain a functional enterprise web application.

Course Description:

This competency-based course will provide students with the "hands-on" skills to plan, design, develop, test, and deploy professional web applications using the server-side web development language PHP and MySQL Database. Students will write Structured Query Language (SQL) to insert, modify, delete, and retrieve data from databases. Students learn by structuring and coding web applications with embedded SQL, and testing, debugging, and validating code for deployment. Students will create efficient custom functions. The course will culminate in the design, development, and deployment of a fully functional enterprise web application.

Course Topics:

- Web Application Development Tools and Development Environment Setup
- Coding, Testing, Debugging, Validating, and Deploying Web Applications
- PHP Syntax and Code Readability
- Designing and Modeling a MySQL Database Schema
- Adding, Editing, Deleting, and Retrieving Data using SQL
- Web Forms, Control Statements, Custom Functions, and Arrays
- Model-View-Controller (MVC) Pattern Design and Object Oriented Programming (OOP)
- Sending Email, Uploading Files and Images
- Cookies, Sessions, and Web Application Security
- Web Application Design, Structure, and Usability

Course Learning Objectives and Competencies:

Upon completion of the course students will be able to:

1. Setup a computer for web application development
2. Code, edit, test, and debug a web application
3. Develop and work with forms in a web application
4. Control web application functionality using control statements
5. Work with strings, numbers, dates, and other data types
6. Create and use arrays and custom functions
7. Design and model a database schema
8. Create SQL to create, modify, and drop databases and their elements
9. Code a web application to connect to and interact with a web database
10. Implement the Module-View-Controller (MVC) Pattern
11. Perform updating and conversion of a web application
12. Develop applications using Object Oriented Programming (OOP) methods
13. Validate data using regular expressions and handle exceptions
14. Implement e-mail functionality in web applications
15. Upload and work with files and images in web applications
16. Create and work with cookies and sessions in web applications
17. Implement security in web applications
18. Design and develop a functional enterprise web application

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Course Deliverables:

Deliverable	Quantity
Course Curriculum Design	1
Course Syllabus	1
Course Schedule Plan (8, 10, and 16 week plans)	1
Course Learning Modules	16
Videos	1
Handouts	1
Course Assessment Rubrics	4
Competencies and Objectives Map (Maps Competencies and Objectives to Learning Activities and Assessments)	1
Instructor Notes	1
Administrator Notes	1

Learning Activities:

Learning Activity	Quantity
Hands-On Workshops	3
Research Activities	1
Videos	1
Discussion Boards (Graded)	8
Lab Exercises (Graded)	7
Course Project Activities (2 - Graded)	10