



Western Technical College

10152145 Advanced Web Programming

Course Outcome Summary

Course Information

Description	This is a continuation of the Web Programming course. Topics include; advanced HTML; advanced JavaScript; scripting languages like PHP and Perl; and database integration with open-source and other databases.
Career Cluster	Information Technology
Instructional Level	Associate Degree Courses
Total Credits	3
Total Hours	72

Pre/Corequisites

Prerequisite	10152118 Applied SQL
Prerequisite	10152124 Intermediate Web Programming

Textbooks

PHP and MySQL for Dynamic Web Sites. 5th Edition. Copyright 2017. Ullman, Larry. Publisher: Pearson.
ISBN-13: 978-0-13-430184-6. Required.

Learner Supplies

Online Subscription fee of approximately \$50. **Vendor:** To be discussed in class. Required.

Success Abilities

1. Cultivate Passion: Enhance Personal Connections

2. Cultivate Passion: Expand a Growth-Mindset
3. Cultivate Passion: Increase Self-Awareness
4. Live Responsibly: Develop Resilience
5. Live Responsibly: Embrace Sustainability
6. Live Responsibly: Foster Accountability
7. Refine Professionalism: Act Ethically
8. Refine Professionalism: Improve Critical Thinking
9. Refine Professionalism: Participate Collaboratively
10. Refine Professionalism: Practice Effective Communication

Course Competencies

1. Explore the PHP server-side scripting language.

Assessment Strategies

- 1.1. Project

Criteria

You will know you are successful when

- 1.1. you write code that uses Basics and Syntax.
- 1.2. you write code that uses Includes.
- 1.3. you write code that uses Super global arrays.
- 1.4. you write code that uses form handling and input validation.
- 1.5. you write code that processes error handling.
- 1.6. you write code that makes use of sessions and cookies.
- 1.7. you write code that includes database integration.
- 1.8. you write code that uses Object Oriented PHP.
- 1.9. you write code that uses file uploading.

Learning Objectives

- 1.a. Explore code that uses Basics and Syntax.
- 1.b. Explore code that uses Includes.
- 1.c. Explore code that uses Super global arrays.
- 1.d. Explore code that uses form handling and input validation.
- 1.e. Explore code that uses error handling.
- 1.f. Explore code that uses sessions and cookies.
- 1.g. Explore code that includes database integration.
- 1.h. Explore code that uses Object Oriented PHP.
- 1.i. Explore code that uses file uploading.
- 1.j. Explore configuration (php.ini)

2. Develop relational databases for use with web site applications.

Assessment Strategies

- 2.1. Project

Criteria

You will know you are successful when

- 2.1. you write SQL queries for designing databases.
- 2.2. you write SQL queries for manipulating databases.
- 2.3. you demonstrate proficiency in PhpMyAdmin.
- 2.4. you integrate databases with websites.

Learning Objectives

- 2.a. Apply My SQL (Maria DB) in databases.

- 2.b. Explore database design.
- 2.c. Demonstrate data manipulation.
- 2.d. Explore PhpMyAdmin.

3. Analyze security when developing website applications.

Assessment Strategies

- 3.1. Project

Criteria

You will know you are successful when

- 3.1. you setup an SSL certificate to enforce the use of HTTPS.
- 3.2. you write a program that salts and hashes passwords.
- 3.3. you write code that prevents cross-site scripting attacks.
- 3.4. you write code that prevents SQL injection attacks.
- 3.5. you write code that helps to prevent dictionary attacks.
- 3.6. you write code that prevents email spam.

Learning Objectives

- 3.a. Explore HTTPS and SSL certificates.
- 3.b. Describe and identify salting and hashing passwords.
- 3.c. Investigate cross-site scripting attacks.
- 3.d. Explain session hijacking.
- 3.e. Describe SQL injection.
- 3.f. Describe and identify dictionary attacks.
- 3.g. Prevent email spam.

4. Explore user interface design for website applications.

Assessment Strategies

- 4.1. Project

Criteria

You will know you are successful when

- 4.1. you build a webpage with a form for entering data.
- 4.2. you build a form with various user inputs.
- 4.3. you apply CSS to make the webpage responsive.

Learning Objectives

- 4.a. Explore Input Controls: buttons, text fields, checkboxes, radio buttons, dropdown lists, list boxes, toggles, date field
- 4.b. Use CSS to design responsive webpages.

5. Examine the HTTP protocol.

Assessment Strategies

- 5.1. Project

Criteria

You will know you are successful when

- 5.1. you write a program that processes POST and GET requests.
- 5.2. you write a program that processes query strings in URLs.
- 5.3. you write a program that makes use of sessions and cookies.

Learning Objectives

- 5.a. Define the "stateless" nature of HTTP.
- 5.b. Explore POST requests.
- 5.c. Explore GET requests.
- 5.d. Explore query strings in URLs.
- 5.e. Describe and identify cookies.
- 5.f. Define and describe sessions.
- 5.g. Understand what HTTPS represents

6. Use tools to develop website applications.

Assessment Strategies

6.1. Project

Criteria

You will know you are successful when

- 6.1. you use a code editor that includes a debugging tool.
- 6.2. you share a Git repository with instructor.
- 6.3. you demonstrate ability to deploy projects to a live web server.

Learning Objectives

- 6.a. Explore various code editors.
- 6.b. Explore tools to debug a website.
- 6.c. Explore version control with Git.
- 6.d. Explore tools for simulating live environments.

7. Process user input from webpages.

Assessment Strategies

7.1. Project

Criteria

You will know you are successful when

- 7.1. you write code that validates user input on the client side.
- 7.2. you write code that validates user input on the server side.
- 7.3. you sanitize data to prevent security issues.
- 7.4. you write code that inserts data into a database.

Learning Objectives

- 7.a. Validate user input on the client side.
- 7.b. Validate user input on the server side.
- 7.c. Sanitize data.
- 7.d. Insert data into a database.

8. Display data from a database in a webpage.

Assessment Strategies

8.1. Project

Criteria

You will know you are successful when

- 8.1. you write code that uses SQL to fetch data from a database.
- 8.2. you sanitize data that is fetched from the database.
- 8.3. you write code that displays data on a webpage.
- 8.4. you write code that paginates results from a database.
- 8.5. you write code that uses full-text searching.

Learning Objectives

- 8.a. Use SQL to fetch data from a database.
- 8.b. Sanitize data.
- 8.c. Display data in various formats in a webpage.
- 8.d. Paginate results from a database in a webpage.
- 8.e. Use full-text searching to find content from a database and display it in a webpage.

9. Assemble dynamic website.

Assessment Strategies

9.1. Website

Criteria

You will know you are successful when

- 9.1. you incorporate full-text search.
- 9.2. you spam proof the contact page.
- 9.3. you incorporate paging functionality.
- 9.4. you deploy to a live web server.

Learning Objectives

- 9.a. use HTML, CSS, JavaScript, PHP, and SQL to develop a dynamic website.