

GRDSN 182

COURSE LEARNING OUTCOMES (CLOs)

1. Demonstrate programming concepts
2. Describe the function of JavaScript
3. Apply JavaScript best practices
4. Use the DOM / Interactivity with elements
5. Examine frameworks (e.g. JQuery)
6. Demonstrate the basics of PHP programming
7. Experiment with database design
8. Define and discuss content management systems
9. Create basic ActionScript coding

Course Outline

In this course, students are required to demonstrate the following competencies at an intermediate level of proficiency:

- I. Demonstrate programming concepts
 - A. Write a script definition tag.
 - B. Create variables and assign them values.
 - C. Create a simple calculation to perform an arithmetic operation; add, subtract, multiply, or divide.
 - D. Use concatenation to combine strings.
 - E. Preserve punctuation within strings by commenting with a backslash.
 - F. Create an array of multiple values.
 - G. Identify the dot notation used to define objects.
 - H. Create script containing a simple condition using “if” and “else”.
 - I. Create a repeating condition using a “for” loop.
 - J. Use the proper JavaScript syntax to write floats and integers, Booleans, and strings.
- II. Describe the function of JavaScript
 - A. Describe how JavaScript processes and delivers data.
 - B. Recognize how it enhances the usability and responsiveness of web pages.
 - C. Describe its vulnerability with security issues.
- III. Apply JavaScript best practices
 - A. Analyze how JavaScript will interact with the page and place the scripts in the most functional locations, externally, internally at the front of the HTML, or at the end.
 - B. Use short and understandable names for variables and functions.
 - C. Avoid using global variables and functions.
 - D. Check your code with a JavaScript validator
 - E. Include concise and clear comments in your code.
 - F. Avoid complex mixing of JavaScript with CSS and other technologies.
 - G. Check basic page functionality with JavaScript turned off.
 - H. Avoid excessive nesting of code.
 - I. Minimize the frequency of DOM access.

- J. Avoid coding features for single browsers.
 - K. Use JavaScript to add functionality, not content.
 - L. Make use of JavaScript libraries.
 - M. Create functions to simplify coding recurring operations.
 - N. Include return operations in functions to check or save results.
 - O. Bundle groups of functions into objects.
- IV. Use the DOM / Interactivity with elements
- A. Build a well-formed and valid HTML and CSS structure for your document.
 - B. Create variables to connect to specific objects within the document tree.
 - C. Use JavaScript to manipulate elements in the DOM to change appearance and visibility.
 - D. Select and control a pattern of objects using a regular expression.
 - E. Use the `.createElement` function to generate HTML objects.
 - F. Use JavaScript to change CSS elements.
 - G. Detect events and trigger actions using JavaScript.
 - H. Change appearance and position of elements over time to create animation effects.
- V. Examine frameworks (e.g. JQuery)
- A. Compare the functionality, characteristics, and support offered by JavaScript frameworks and libraries.
 - B. Access popular libraries by linking and by downloading to your local storage.
 - C. Make use of tools from the library.
- VI. Demonstrate basics of PHP programming
- A. Locate PHP resources.
 - B. Compare and contrast syntax of PHP to JavaScript.
 - C. Create PHP resource pages and include them into another page.
 - D. Write a connection script to access an existing database.
- VII. Experiment with database design
- A. Locate open-source resources for database management, such as PHPmyAdmin.
 - B. Connect to an existing server account and database.
 - C. Create a database table using MySQL and also a management application.
 - D. Use appropriate parameters to define table data fields.
 - E. Create a query to access your data table.
- VIII. Define and discuss content management systems
- A. Investigate open-source and proprietary content management systems.
 - B. Identify the functionality of CMS.
- IX. Create basic ActionScript coding
- A. Compare and contrast syntax of ActionScript to JavaScript.
 - B. Create simple ActionScript scripts that mimic JavaScript.

Projects: Interactive mobile web interface, Simple content management tool