

# COURSE OUTLINE

CMSY-205

Advanced JavaScript

3 Credits

## HOWARD COMMUNITY COLLEGE

### Description

This course provides comprehensive instruction in JavaScript. It will present both intermediate and advanced topics needed to create, design, write, test, debug and document programs to run on client machines with JavaScript. Prerequisite: CMSY-148 OR CMSY-152. (3 hours weekly)

### Overall Course Objectives:

Upon successful completion of this course students will:

1. Master fundamental concepts regarding the use of JavaScript as a client-side scripting language and the elements of the Document Object Model.
2. Implement looping and conditional branching.
3. Use JavaScript for DHTML, including rollovers and creating pop-up windows.
4. Use JavaScript for form validation, to handle events on a form, and to write scripts for list boxes, check boxes, and radio buttons.
5. Write JavaScript methods to allow web servers to interact with a user.
6. Use JavaScript security tools for password protection.
7. Use JavaScript to write data to cookies and other advanced cookie functions.
8. Develop a troubleshooting strategy to debug common JavaScript errors.

### Major Topics

- I. Overview of JavaScript
  - a. Placing JavaScript code in HTML pages
- II. Working with Variables
  - a. Naming Variables: Rules and Best Practices
  - b. JavaScript Reserved Words
- III. Working with Functions
  - a. Passing values to functions and returning a value from a function
  - b. Different uses of local and global variables
  - c. Use recursive functions
- IV. Using If statements, Do loops, and While loops
- V. Using the Array Object
- VI. Working with windows in JavaScript
  - a. Creating new pop-up windows
  - b. Writing to a window object from a document
  - c. Referring to a window from another window
- VII. Using objects
  - a. Creating an object using the Object data type
  - b. Using the delete operator to delete an object
  - c. Using the With Statement to reference an object
  - d. Looping through the elements of an object
- VIII. Creating Event Handlers
  - a. Using JavaScript Events

- IX. Working with the Form Object
  - a. Creating event handlers for checkboxes, radio buttons, and selection lists
  - b. Creating required form fields
  - c. Form validation
  - d. Other form functions
- X. Creating and Using Cookies
- XI. Working with Images and Mouseovers
- XII. Using Tools for Interacting with the User
  - a. Displaying messages using the alert() method
  - b. Getting input using the prompt() method
  - c. Asking questions using the confirm() method
- XIII. Security tools: Creating Password Protected Web Pages with JavaScript
- XIV. Debugging JavaScript Code

## **Course Requirements**

### Grading criteria

Specific criteria, assignments and activities for evaluating student mastery of objectives will be described in the individual class syllabus, but will include:

1. Projects developing web page elements with HTML and JavaScript.
2. Written tests and quizzes will also be used for evaluation.

## **Other Course Information**

This course is a Business Elective and an Internet Elective.