VCIM-2281: WEB PUBLISHING III: JAVASCRIPT

Cuyahoga Community College

Viewing: VCIM-2281 : Web Publishing III: JavaScript

Board of Trustees:

November 2024

Academic Term:

Fall 2025

Subject Code

VCIM - VC-Interactive Media

Course Number:

2281

Title:

Web Publishing III: JavaScript

Catalog Description:

Provides an introduction and solid foundation in JavaScript, including syntax, conditionals, functions, manipulating the DOM, and event handling. Working commonly used JavaScript libraries are also covered. Prior scripting or programming experience is welcome but not required.

Credit Hour(s):

3

Lecture Hour(s):

2

Lab Hour(s):

3

Requisites

Prerequisite and Corequisite

VCIM-1570 Web Publishing I: HTML, or IT-2310 Web Programming.

Outcomes

Course Outcome(s):

Follow professional best practices for coding JavaScript.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Demonstrate basic programming fundamentals such as conditional statements, loops, and functions using basic JavaScript.
2. Create a web-based interface to collect information from a user.
3. Complete basic DOM manipulation.

Course Outcome(s):

Utilize networks and research to continue to learn new and emerging techniques as they become available.

Essential Learning Outcome Mapping:

Information Literacy: Demonstrate contextual awareness of the research process through the reflective discovery of the production and value of information, the use of information in the creation of new knowledge and ethical participation in the use of information in communities of learning.

Objective(s):
1. Determine which technologies best meet the needs of the project/client.
2. Determine a list of resources and establish a schedule to regularly get updates on industry changes to be aware of emerging technologies.

Course Outcome(s):

Plan, design and build multi-device friendly, interactive user interfaces.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):
1. Using user experience design best practices design a web-based interface which collects information from a user.
2. Combine HTML, CSS and JavaScript skills to implement the web-based interface.

Methods of Evaluation:
1. Participation in discussions, planning sessions and critiques.
2. Lab and field activities.
3. Oral and Written Reports.
4. Exercises and projects.

Course Content Outline:
1. Introduce JavaScript, including differences between client-side and server-side programming.
    a. What is JavaScript, what it does and why we use it
    b. Differences between client-side and server-side programming
2. Introduce basic programming concepts using JavaScript:
    a. Variables, variable types
    b. Strings, string operations
    c. If/else
    d. For loops, While loops
    e. Arrays, array operations
    f. Date/time object
3. Learn how to use console.log and browser debugging
    a. Explore using console.log to determine values of variables at any point in script
    b. Learn how to engage the built-in browser debugger to find the source of any problems
4. Learn how to work with source control system
    a. Use source control system for homework assignments
    b. Understand commands and lifecycle of a project in a source control system
5. HTML form validation using JavaScript
    a. Understand HTML form attributes and their role in form validation
    b. Create custom error messaging based on form errors
6. User interface design best practices
    a. Explore design failure and success case studies
    b. Apply basic user experience design principles to interface design
7. Introduce JSON object notation, JSON operations
    a. Use JSON to communication with external servers
    b. Process JSON response from external servers
8. Introduce commonly used JavaScript libraries
    a. How to read library documentation
    b. How to choose an appropriate library
    c. How to implement JavaScript library
    d. Code delivery networks
9. Bring it all together, developing an interface from scratch, use JavaScript and JSON to collect and modify data

     a. Review project requirements, develop a plan for completing project
     b. Review request/response requirements for API
     c. Build user interface to collect request and display response
     d. Build JSON processing to facilitate API call and process JSON response
10. Keeping up and staying relevant
     a. Professional Organizations
     b. Local groups
     c. Research tools
     d. Tutorials
     e. Online support and discussions

Resources

Scott, Adam; MacDonald, Matthew; Powers, Shelley. (2021) *JavaScript Cookbook: Programming the Web*, O'Reilly Media.

Svekis, Laurence; Van Putten, Maaike; Percival, Rob. (2021) *JavaScript from Beginner to Professional: Learn JavaScript quickly by building fun, interactive, and dynamic web apps, games, and pages*, Packt Publishing.

Flanagan, David. (2020) *JavaScript: The Definitive Guide: Master the World's Most-Used Programming Language*, O'Reilly Media.

Resources Other

1.
   LinkedIn Learning (https://www.linkedin.com/learning/) . (2024)
2. O'Reilly (https://www.oreilly.com/) . (2024)

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