

IT-2321: INTERACTIVE WEB DEVELOPMENT

Cuyahoga Community College

Viewing: IT-2321 : Interactive Web Development

Board of Trustees:

January 2026

Academic Term:

Fall 2026

Subject Code

IT - Information Technology

Course Number:

2321

Title:

Interactive Web Development

Catalog Description:

Introduction to client-side web development using JavaScript. Topics include language fundamentals, interaction with HTML elements, event-driven programming, form validation, and working with JSON data.

Credit Hour(s):

3

Lecture Hour(s):

2

Lab Hour(s):

2

Requisites

Prerequisite and Corequisite

IT-1051 Introduction to Programming, and IT-2310 Web Programming.

Outcomes

Course Outcome(s):

Master the fundamentals of the JavaScript language for client-side scripting.

Objective(s):

1. Add JavaScript to a web page using the script element.
2. Create variables to store and access data throughout the use of a program.
3. Utilize single- and multi-line comments to add documentation to HTML and/or JavaScript files.
4. Change the flow of statements in a program using control logic statements.
5. Modularize statements into functions and call them based on events triggered by a user interacting with HTML elements.
6. Read, update, and validate HTML form data.
7. Use dates and numbers with included JavaScript Date and Number methods.
8. Utilize JavaScript arrays to process sets of data.
9. Create and use JavaScript objects.

Course Outcome(s):

Utilize JavaScript and client-side scripting techniques to implement interactive web pages.

Objective(s):

1. Identify, analyze, and research business problems and solve them using Hyper Text Markup Language (HTML), Cascading Style Sheets (CSS), and client-side scripting.

2. Use JavaScript functions to write event-driven programs where users interact with HTML on a web page using HTML's Document Object Model (DOM) and JavaScript's document object.
3. Attach events to HTML elements using JavaScript.
4. Demonstrate an understanding of JavaScript events such as page load, form submission, and user interaction.
5. Modify existing CSS properties using JavaScript and the DOM.
6. Explain and use JavaScript Object Notation (JSON) to store and pass data.
7. Create asynchronous calls to a web server using AJAX or the Fetch API.
8. Explore relevant JavaScript frameworks and libraries.

Methods of Evaluation:

1. Class participation or discussion
2. Programming projects
3. Quizzes
4. Exams

Course Content Outline:

1. Getting Started
 - a. Introduction to web development
 - b. Getting started with JavaScript
 - c. The essential JavaScript statements
 - d. How to work with JavaScript objects, functions, and events
 - e. How to script forms and controls
 - f. How to test and debug a JavaScript application
2. JavaScript essentials
 - a. How to work with numbers, strings, and dates
 - b. How to code control statements
 - c. How to work with arrays and web storage
 - d. How to create and use functions
 - e. How to create and use objects
 - f. How to use regular expressions, handle exceptions, and validate data
3. Advanced JavaScript skills
 - a. How to work with events, images, and timers
 - b. How to work with closures, callbacks, and recursion
 - c. How to work with namespaces, modules, and custom properties
 - d. How to work with JavaScript Object Notation (JSON)
 - e. How to make asynchronous network requests using AJAX or Fetch API

Religious Accommodation

Before reviewing the course schedule, students should carefully review the following religious accommodation policy and other required instructional policies:

Religious Accommodation:

Students seeking an accommodation for absences permitted under Ohio's Testing Your Faith Act must provide the instructor with written notice of the specific dates for which the student requires an accommodation and must do so not later than fourteen (14) days after the first day of instruction. Please submit requests for accommodations at this link: <https://portal2.tri-c.edu/ReligiousAccommodation/ReligiousAccommodationForm>. Students with questions about their religious accommodations under Ohio's Testing Your Faith Act may contact the College's Office of General Counsel and Legal Services by phone at 216.987.4856 or via email at legal@tri-c.edu.

Other Required Instructional Policies:

<https://www.tri-c.edu/student-resources/curriculum/documents/syllabus-part-b.pdf>

Weekly Schedule

	Topics
Week 1	Web Development Review and & JavaScript Introduction
Week 2	Essential JS Statements & Syntax

Week 3	JS Objects, Functions, and Events
Week 4	Forms Scripting, Testing & Debugging
Week 5	Data Types: Numbers, Strings, and Dates
Week 6	Control Statements (If/Else, Loops)
Week 7	Arrays and Web Storage
Week 8	Creating and Using Functions
Week 9	Creating and Using Objects
Week 10	Regular Expressions and Exception Handling
Week 11	Data Validation
Week 12	Events, Images, and Timers
Week 13	Closures, Callbacks, and Recursion
Week 14	Namespaces, Modules, and Properties
Week 15	Working with JSON
Week 16	Asynchronous Network Requests (AJAX/Fetch)

The Course Schedule is subject to change due to pedagogical needs, instructor discretion, parts of term, and unexpected events.

Required/Recommended Readings

Readings will be from one of the below recommended textbooks, as selected by the individual instructors

- Marijn Haverbeke. (2024) *Eloquent JavaScript*, No Starch Press.
- Frisbie, M. (2024). *Professional JavaScript for Web Developers* (5th ed.). Wrox.
- David Flanagan. (2020) *JavaScript: The Definitive Guide*, O'Reilly Media.
- W3Schools. (2023). *JavaScript Tutorial*. <https://www.w3schools.com/js> (<https://www.w3schools.com/js/>)
- Mozilla Corporation. (2023) *JavaScript Basics* (MDN Web Docs). <https://developer.mozilla.org/en-US/docs/Learn/>

Resources for the Instructor

McFarland, David. *JavaScript jQuery: The Missing Manual*. 3rd. O'Reilly Media, 2014.

Marijn Haverbeke. (2024) *Eloquent JavaScript*, No Starch Press.

David Flanagan. (2020) *JavaScript: The Definitive Guide*, O'Reilly Media.

(2023) *JavaScript Tutorial*, W3Schools. <https://www.w3schools.com/js>

Mozilla Corporation. (2023) *JavaScript Basics* (MDN Web Docs). <https://developer.mozilla.org/en-US/docs/Learn/>

(2023) *Tutorial: Intro to React (Facebook Open Source)*, Meta Platforms, Inc. <https://reactjs.org/tutorial/tutorial.html>

(2023) *What is jQuery?*, OpenJS Foundation. <https://jquery.com>
