Academic Architects
Course Data Sheet

Course Number:	WEBTECH-310
Course Name:	Applied JavaScript
Level of Effort:	3 Semester Hours or 5 Quarter Hours
Course Level:	Intermediate
Prerequisites:	Introduction to Web Development, HTML, and CSS
Adoption/Use:	Introduction to JavaScript
Subject Area:	Information Technology, Web Development
Release Version:	2020-1

Primary Course Objective: Upon completion of this course students will be able to build interactive web pages using JavaScript.

Course Description:
This competency-based course will provide students with the "hands-on" skills to design, develop, test, and support interactive web pages using the JavaScript procedural language. Students learn through a series of hands-on workshops and lab exercises to structure and code JavaScript, build and use custom functions, test, debug, and validate programming code, and work with objects, events, and the Document Object Model (DOM). Students will format data using the JavaScript Object Notation (JSON). The course will culminate in the design and development of a comprehensive and functional interactive web page.

Course Topics:
- JavaScript Development Tools and Development Environment Setup
- Coding, Editing, Testing, Debugging, and Validating Interactive Web Pages
- JavaScript Structure, Syntax, and Code Readability
- Variable Scope, Null and Undefined Variables
- Working with Arrays, Strings, Primitives, Numbers, Dates, and Booleans
- Designing and Building Custom Functions
- Conditional Statements, Loops, Timers, Closures, and JavaScript Object Notation (JSON)
- Creating, Extending, Getting, and Setting Custom Objects and Classes
- Creating, Finding, Modifying, and Removing elements in the Document Object Model (DOM)
- Working with Events, Event Propagation and Interruption, Mouse, Keyboard, and Page Load Events, and Handling Multiple Events

Course Learning Objectives and Competencies:
Upon completion of the course students will be able to:
1. Setup a computer for JavaScript development
2. Create JavaScript Code
3. Properly use variables in JavaScript code
4. Use good JavaScript coding techniques and create code that is readable
5. Design and build JavaScript custom functions
6. Create and properly use conditional statements and loops
7. Build and work with timers and closures.
8. Properly use variable scope
9. Log JavaScript message in the console for debugging
10. Test and debug JavaScript code
11. Work with objects such as arrays, strings, primitives, numbers, and dates
12. Get and set object properties
13. Create and extend objects
14. Create and work with object classes
15. Work with and use Booleans, stricter operators, and null and undefined variables
16. Create and work with JavaScript Object Notation (JSON)
17. Find and modify elements in the Document Object Model (DOM)
18. Modify CSS style using JavaScript
19. Traverse the DOM and create and remove elements in the DOM
20. Work with events, event propagation, and interruption
21. Work with mouse, keyboard, and page load events
22. Work with and handle multiple events
23. Develop an interactive web page using JavaScript

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Course Deliverables:

Deliverable	Quantity
Course Curriculum Design	1
Course Syllabus	1
Course Schedule Plan (8, 10, and 16 week plans)	1
Course Learning Modules	16
Handouts	1
Course Assessment Rubrics	3
Competencies and Objectives Map (Maps Competencies and Objectives to Learning Activities and Assessments)	1
Instructor Notes	1
Administrator Notes	1

Learning Activities:

Learning Activity	Quantity
Hands-On Workshops	4
Discussion Boards (Graded)	5
Lab Exercises (Graded)	10
Course Project Activities (1 - Graded)	2