



This course supports the assessments for Web Programming. The course covers 7 competencies and represents 6 competency units.

## Introduction

### Overview

Web development is a fast-growing area of IT that continues to gain importance as e-commerce, social networking, communications, and informational resources become a bigger part of everyday life. This can be a challenging, yet fun area of IT since it requires both analytical skills (i.e., coding) and creative perspectives (i.e., problem solving). To learn web development requires the investment of many hours of hands-on practice in coding as well as hands-on practice debugging mistakes. This course prepares students for the following certification exam: CIW JavaScript Specialist.

### Getting Started

Welcome to Web Programming! As you progress through this course, apply what you have learned by developing practice websites. While developing your web programming competencies requires significant time, precision, and patience, most students find this to be a very rewarding area of study with great professional relevance for today's IT careers. Work through the course to use the Certification Partners learning resource, and check each activity complete as you finish it. These activities prepare you for the assessment: the CIW JavaScript Specialist certification exam.

Watch the following video introduction for this course:

*Note: To download this video, right-click the following link and choose "Save as...": [download video](#).*

### Competencies

This course provides guidance to help you demonstrate the following 7 competencies:

- **Competency 418.2.1: Web Programming Languages**  
The graduate applies characteristics and features of Web programming languages.
- **Competency 418.2.2: Variables and Data**  
The graduate demonstrates the ability to create, modify, and utilize variables and data.
- **Competency 418.2.3: Decision Structures**  
The graduate demonstrates understanding of decision structures.
- **Competency 418.2.4: Function, Methods, Properties, and Events**  
The graduate demonstrates understanding of functions, methods, properties, and events.
- **Competency 418.2.6: Client-Side Web Programming Language**  
The graduate demonstrates understanding of client side Web programming language.
- **Competency 418.2.7: Custom Web Programming Language Objects**  
The graduate demonstrates understanding of custom Web programming language



objects.

- **Competency 418.2.8: Controls in Web Programming**

The graduate demonstrates understanding of how to control windows in a Web programming language.

### **Course Instructor Assistance**

You are encouraged to contact your course instructor team as soon as you begin the course.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency.

## **Preparing for Success**

The information in this section is provided to detail the resources available for you to use as you complete this course.

### **Before You Begin**

#### **Prerequisite: HTML**

This course assumes you have basic knowledge of HTML. If you have never worked with HTML, or it has been a while, start by reviewing this [HTML Overview tutorial](#) (34 min).

*Note: To download this video, right-click the following link and choose "Save as...": [download video](#).*

### **Download a Text Editor**

You will need a text editor application to use when completing the labs. We recommend these free text editors:

- [Notepad++](#) (Windows)
- [TextWrangler](#) (Mac OS)

Acquire such a text editor now.

### **Preparing for the Lab Files**

The labs in this course will require you to write and debug JavaScript. If you are new to programming, you should view the following video:

*Note: If you would like to download the video, right-click the following link and choose the "Save as..." option: [How to Code and Debug JavaScript](#).*

This video will show you how to start coding JavaScript by opening a file and typing the code into it using a text editor. It will also show you how to debug your code by using the built-in



browser tools.

## **Pacing Guide**

The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. Follow the pacing guide carefully to complete the course in the suggested timeframe.

### Week 1

- Preparing for Success
- Lesson 1: Introduction to JavaScript
- Lesson 2: Working with Variables and Data in JavaScript

### Week 2

- Lesson 3: Functions, Methods and Events in JavaScript
- Lesson 4: Controlling Program Flow in JavaScript

### Week 3

- Lesson 5: The JavaScript Document Object Model (DOM)
- Lesson 6: JavaScript Language Objects

### Week 4

- Lesson 7: Developing Interactive Forms with JavaScript

### Week 5

- Lesson 8: JavaScript Security
- Lesson 9: Custom JavaScript Objects

### Week 6

- Lesson 10: Changing X/HTML on the Fly

### Week 7

- Lesson 11: JavaScript Libraries
- Lesson 12: JavaScript and AJAX

### Week 8

- Lesson 13: Debugging and Troubleshooting JavaScript
- Practice Test A



## Week 9

- Practice Test B
- Post Assessment

## Week 10

- Certification Exam

*Note: This pacing guide does not replace the course. Please continue to refer to the course for a comprehensive list of the resources and activities.*

## The Study Process

For each lesson, please read through the materials, complete the lesson labs as assigned, and reinforce your learning with the lesson quiz questions. After completing all 13 lessons, review and prepare for the certification exam by using the practice tests.

### Lesson 1: Introduction to JavaScript

This topic supports the following competency:

- **Competency 418.2.1: Web Programming Languages**

The graduate applies characteristics and features of Web programming languages.

#### Introduction to JavaScript

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 1 ("Introduction to JavaScript")

Complete the following lab:

- Lab 1-1 ("Creating a JavaScript-enabled page")

Complete Lesson 1 Cards, Quizzes, and Exercises.

### Lesson 2: Working with Variables and Data in JavaScript

This topic supports the following competency:

- **Competency 418.2.2: Variables and Data**

The graduate demonstrates the ability to create, modify, and utilize variables and data.

#### Working with Variables and Data in JavaScript

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 2 ("Working with Variables and Data in JavaScript")

Complete the following labs:



- Lab 2-1 ("Using the JavaScript *alert()* method")
- Lab 2-2 ("Using the JavaScript *prompt()* method")
- Lab 2-3 ("Using the JavaScript *confirm()* method")
- Lab 2-4 ("Using the JavaScript *document.write()* method")
- Lab 2-5 ("Starting user data in a JavaScript variable")
- Lab 2-6 ("Assigning and adding variables in JavaScript")

Complete Lesson 2 Cards, Quizzes, and Exercises.

### Optional Videos

The following videos help illustrate some of the concepts from this lesson:

- module 2 ("Variables and Types") of [Introducing the JavaScript Language](#) (20m 11s)
- "Understanding Variable Scope" in module 6 of [Introducing the JavaScript Language](#) (5m 30s)

## Lesson 3: Functions, Methods and Events in JavaScript

This topic supports the following competency:

- **Competency 418.2.4: Function, Methods, Properties, and Events**  
The graduate demonstrates understanding of functions, methods, properties, and events.

### Functions, Methods and Events in JavaScript

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 3 ("Functions, Methods and Events in JavaScript")

Complete the following labs:

- Lab 3-1 ("Creating a user-defined function in JavaScript")
- Lab 3-2 ("Using functions, arguments and return values in JavaScript")
- Lab 3-3 ("Calling a function from within another function in JavaScript")

Complete Lesson 3 Cards, Quizzes, and Exercises.

### Optional Videos

The following video helps illustrate some of the concepts from this lesson:

- [Reviewing Lesson 3 webinar](#) (38m)

## Lesson 4: Controlling Program Flow in JavaScript

This topic supports the following competency:

- **Competency 418.2.3: Decision Structures**  
The graduate demonstrates understanding of decision structures.



## Controlling Program Flow in JavaScript

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 4 ("Controlling Program Flow in JavaScript")

Complete the following labs:

- Lab 4-1 ("Using if statements")
- Lab 4-2 ("Using a while statement")
- Lab 4-3 ("Using a for statement")

Complete Lesson 4 Cards, Quizzes, and Exercises.

### Optional Videos

The following videos help illustrate some of the concepts from this lesson:

- "Conditional Statements and Logic" in module 3 of [JavaScript Essential Training](#) (5m 42s)
- "Advanced conditions and logic" in module 3 of [JavaScript Essential Training](#) (3m 27s)
- "Conditionals: Switch" of module 4 of [Introducing the JavaScript Language](#) (5m 59s)
- Module 5, "Iterating with Loops of [Introducing the JavaScript Language](#) (20m 29s)

## Lesson 5: The JavaScript Document Object Model (DOM)

This topic supports the following competencies:

- **Competency 418.2.4: Function, Methods, Properties, and Events**  
The graduate demonstrates understanding of functions, methods, properties, and events.
- **Competency 418.2.8: Controls in Web Programming**  
The graduate demonstrates understanding of how to control windows in a Web programming language.

### The JavaScript Document Object Model (DOM)

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 5 ("The JavaScript Document Object Model (DOM)")

Complete the following labs:

- Lab 5-1 ("Launching a new window with the open() method")
- Lab 5-2 ("Writing content to new windows")
- Lab 5-4 ("Using properties and methods of a remote object")
- Lab 5-5 ("Using the image object")

Complete Lesson 5 Cards, Quizzes, and Exercises.



## Optional Videos

The following video helps illustrate some of the concepts from this lesson:

"DOM: The document object model" in module 5 of [JavaScript Essential Training](#) (4m )  
[Reviewing Lesson 5 webinar](#) (53m)

## Lesson 6: JavaScript Language Objects

This topic supports the following competency:

- **Competency 418.2.2: Variables and Data**

The graduate demonstrates the ability to create, modify, and utilize variables and data.

### JavaScript Language Objects

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 6 ("JavaScript Language Objects")

Complete the following labs:

- Lab 6-1 ("Using String object formatting methods")
- Lab 6-2 ("Applying String methods to text")
- Lab 6-3 ("Creating an Array object")

Complete Lesson 6 Cards, Quizzes, and Exercises.

## Optional Videos

The following video helps illustrate some of the concepts from this lesson:

- [Reviewing Lesson 6 webinar](#) (39m)

## Lesson 7: Developing Interactive Forms with JavaScript

This topic supports the following competency:

- **Competency 418.2.6: Client-Side Web Programming Language**

The graduate demonstrates understanding of client side Web programming language.

### Developing Interactive Forms with JavaScript

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 7 ("Developing Interactive Forms with JavaScript")

Complete the following labs:

- Lab 7-1 ("Using a text box, a check box and a button")
- Lab 7-2 ("Using radio buttons")
- Lab 7-3 ("Using a select object")



- Lab 7-4 ("Using a multiple-selection list")

Complete Lesson 7 Quizzes and Exercises.

Read the following article:

- [Accessing Forms](#)

### Optional Videos

The following video helps illustrate some of the concepts from this lesson:

- [HTML Forms Overview](#) (18m 28s)
- [Reviewing Lesson 7 webinar](#) (29m)

## Lesson 8: JavaScript Security

This topic supports the following competencies:

- **Competency 418.2.1: Web Programming Languages**  
The graduate applies characteristics and features of Web programming languages.
- **Competency 418.2.6: Client-Side Web Programming Language**  
The graduate demonstrates understanding of client side Web programming language.

### JavaScript Security

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 8 ("JavaScript Security")

Complete the following labs:

- Lab 8-1 ("Performing client-side browser detection")
- Lab 8-2 ("Locking the browser with malicious code")
- Lab 8-3 ("Setting, viewing and clearing a cookie with JavaScript")
- Lab 8-4 ("Setting passwords with cookies")

Complete Lesson 8 Cards, Quizzes, and Exercises.

## Lesson 9: Custom JavaScript Objects

This topic supports the following competency:

- **Competency 418.2.7: Custom Web Programming Language Objects**  
The graduate demonstrates understanding of custom Web programming language objects.

### Custom JavaScript Objects

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 9 ("Custom JavaScript Objects")





Complete the following lab:

- Lab 9-1 ("Creating a custom object")

Complete Lesson 9 Cards, Quizzes, and Exercises.

Read the following article:

- [Custom Objects](#)

### Optional Videos

The following videos help illustrate some of the concepts from this lesson.

- [Reviewing Lesson 9 webinar](#) (11m)

## Lesson 10: Changing X/HTML on the Fly

This topic supports the following competency:

- **Competency 418.2.7: Custom Web Programming Language Objects**  
The graduate demonstrates understanding of custom Web programming language objects.

### Changing X/HTML on the Fly

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 10 ("Changing X/HTML on the Fly")

Complete the following labs:

- Lab 10-1 ("Redirecting a page based on user input with *getElementById*")
- Lab 10-2 ("Changing the DOM using *getElementsByTagName*")
- Lab 10-3 ("Getting, setting and removing X/HTML attributes")

Complete Lesson 10 Cards, Quizzes, and Exercises.

Read the following articles:

- [getElement\(s\)By](#)
- [innerHTML](#)

### Optional Videos

The following videos help illustrate some of the concepts from this lesson:

- [Reviewing Lesson 10 webinar](#) (27m)

## Lesson 11: JavaScript Libraries

This topic supports the following competency:



- **Competency 418.2.1: Web Programming Languages**

The graduate applies characteristics and features of Web programming languages.

### **JavaScript Libraries**

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 11 ("JavaScript Libraries")

Complete the following labs:

- Lab 11-1 ("Loading a JavaScript library and running a library script")
- Lab 11-2 ("Using CSS and JavaScript to create a basic slideshow")
- Lab 11-3 ("Loading, testing and editing a library plug-in")

Complete Lesson 11 Cards, Quizzes, and Exercises.

## **Lesson 12: JavaScript and AJAX**

This topic supports the following competencies:

- **Competency 418.2.6: Client-Side Web Programming Language**  
The graduate demonstrates understanding of client side Web programming language.
- **Competency 418.2.7: Custom Web Programming Language Objects**  
The graduate demonstrates understanding of custom Web programming language objects.

### **JavaScript and AJAX**

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 12 ("JavaScript and AJAX")

Complete the following labs:

- Lab 12-1 ("Using AJAX to dynamically edit the DOM with button clicks")
- Lab 12-2 ("Using AJAX and libraries to create tooltips")

Complete Lesson 12 Cards, Quizzes, and Exercises.

### **Optional Videos**

The following videos help illustrate some of the concepts from this lesson:

- [Reviewing Lesson 12 webinar](#) (7m)

## **Lesson 13: Debugging and Troubleshooting JavaScript**

This topic supports the following competency:

- **Competency 418.2.6: Client-Side Web Programming Language**  
The graduate demonstrates understanding of client side Web programming language.



## Debugging and Troubleshooting JavaScript

Access [CIW: JavaScript Specialist](#) and complete the following lesson:

- Lesson 13 ("Debugging and Troubleshooting JavaScript")

Complete the following labs:

- Lab 13-1 ("Installing and debugging with the Mozilla Firebug add-on")
- Lab 13-2 ("Troubleshooting a logic error in JavaScript")

Complete Lesson 13 Cards, Quizzes, and Exercises.

## Practice Tests

Practice tests A and B are designed to help you build your skills and identify areas for targeted study. This recommended approach is to complete both Practice Test A and Practice Test B in Learn Mode. Learn why you missed specific questions (not just the correct answer), and make sure you understand exactly what the code is doing.

The following are some tips for reviewing the questions you missed:

1. Use the explanations on each question to understand what is being asked.
2. Understand both why one answer is correct, but also why the other three answers are incorrect.
3. Type any code into a text editor and run it. See exactly what the code is doing and experiment with changes to the code to see if the outcome is still the same.
4. Look up any of the methods, functions, etc. that you don't recognize on [W3Schools.com](#).
5. Use the Course Search feature to look up any questions that you are still having trouble with. You will find line-by-line explanations of the code for many of the commonly missed questions.

## Post Assessment

Now that you have completed all lessons and reviewed the material, you should take the Post Assessment in Test Mode to get an indication of your readiness to take the final CIW Certification exam.

Note: If you are not consistently scoring 85% or higher, do not refer for the assessment. First, get help from your course instructor with any content you do not understand. The test bank for this course is not large and it is very easy to unintentionally memorize answers. Be sure that your score reflects your understanding of the materials and is not a result of taking the practice exam multiple times.

## Outside Vendor Assessment

Congratulations on completing the activities in this course! This course has prepared you to complete the JavaScript Specialist exam.

Complete the JavaScript Specialist exam:



- Exam ID: 1D0-635
- Number of Questions: 55 items (randomly chosen)
- Passing Score: 41 (or 75%)
- Time Limit: 90 minutes

For directions on how to receive access to outside vendor assessments, see the "[Accessing Objective and Outside Vendor Assessments](#)" page.

*Note: After the second and each subsequent fail, you will be required by CIW to wait at least 30 days before attempting the same exam again. Please see the CIW Exam Policies web page for more information.*

### What to Expect on the Exam

All of the course material will be covered equally on this multiple choice exam. This exam tests whether you can read and interpret JavaScript. You will not be required to write any code during the exam, but most of the questions will provide you several lines of code. You should be prepared to see a block of code and answer questions about what it is doing, how to complete the code, or to identify errors.

The practice tests for this course are an excellent study tool to prepare you for the types of questions you may see. We recommend working through all 13 lesson quizzes as well as the 2 practice tests while studying the code in great detail. Your goal should not be to memorize, which will actually hurt you, but to make sure you understand what every line and every character of the code is doing.

### Submitting Outside Vendor Assessment Scores

If you completed your assessment at a testing center, follow the directions for submitting a score report on the "[Following Outside Vendor Assessments](#)" page.

If you completed your assessment online, follow [these directions](#) for submitting a score report.