

# Introduction And Instructions

**Asynchronous Code**, you'll learn how to fetch data from multiple sources without making the user wait for each item to load step by step. Key tools such as promises, async, and await will help you write code for the modern browser and modern user. You'll practice working with data in an asynchronous environment by completing several map exercises at the end of the week.

## Learning Outcomes

### *Course Learning Outcomes Addressed*

- Explain the key web programming concepts
- Build web applications using JavaScript, HTML, and CSS
- Design and code user interactions on web pages
- Design and implement UI components for web applications

### *By the end of this week, you will be able to:*

1. Identify asynchronous functions, their functionality, and how async functions work together with promises
2. Practice communicating technical decisions you've made
3. Write async functions to fetch data from multiple sources
4. Evaluate the benefits and pitfalls of asynchronous programming techniques
5. Render a map on a web page
6. Build and manipulate maps on web pages

## Activities

## *Key Activities*

- Knowledge Checks 8.1 and 8.2
- Discussions
  - Asynchronous Programming Techniques
  - Share Your Animated Map
- Coding Activities
  - Fetching Data From URLs
  - Working With The DOM To Add Map Markers
- Coding Assignments
  - Working With The DOM To Add Animation To Maps

## *Self-Study Activities*

- Map Hello World
- Map Markers
- Map Clustering
- Map Heatmap
- Map Animation
- Real-Time Bus Tracker