

# Web Development I Course Information

Web Development I & II introduces learners to the web technology stack. From a basic introduction to web scripting, routing, validate to advanced concepts like filters, optimisation and monitoring. The course introduces the core concepts of web development and provides an important primer for your future career as a web developer.

## Learning Outcomes for Web Development I

1. Describe the web technology stack and select an appropriate technology to use.
2. Understanding the essential programming syntax required to develop web applications.
3. Develop web applications that use appropriate routing to present a logical navigation hierarchy to users.
4. Be able to maintain state when developing web applications.
5. Understanding validation and model binding
6. Using object-oriented concepts to build robust and flexible web applications.
7. Know how to debug web applications.
8. Implement a consistent look and feel across web applications.
9. Using object-oriented concepts to build maintainable and robust, reusable applications

## Admission Requirements for Web Development I

Minimum admission requirement is a National Senior Certificate (NSC) or Senior Certificate (SC) or a National Certificate Vocational (NCV).

Applicants must also have completed Programming Fundamentals I and Programming Fundamentals II or successfully passed an admission assessment. A portfolio of an applicant's software development experience could also be used to waive the admission requirements.

## Course Content for Web Development I

1. Introduction
  - History of Web Development
  - Web Development Today
  - Introduction to a web development language
  - Setting the development environment
  - Building a basic web application
  - Adding a style theme to a web application
2. Markup Page Essential
  - Introduction to markup in the browser
  - Overview of a server-side markup script language
  - Understanding basic html syntax
  - Introduction to demo application that will be used in the course.
3. Generating Layouts and Markup with Tag Helpers
  - Learning more server-side markup tags and helpers
  - Understanding tag helpers
4. Working with Forms, Binding, and Validation
  - Introduction to binding
  - Introduction to forms and workflows
  - Exploring the binding model
  - Understanding validation and the binding

5. Understanding URL Routing and Page Flow
  - Learning about action results
  - Understanding routing
  - Introduction to routing constraints
  - Setting up routing in applications
6. State Management in Web Applications
  - What is state management in web application?
  - Cookies for state management
  - Query String
  - Hidden Fields
  - What are sessions?
  - Sessions
7. Working with Partial Views
  - Understanding Partial Views
  - Working with sections
  - Learn to use View Components
  - Using Partial Views, Sections and View Components
8. Debugging Web Applications
  - How to use the debugger?
  - How to add watches?
  - How to debug an application?
  - How to step through code?
  - How to step over code?
  - How to use the immediate windows?
9. Using OOP Concepts to Build Robust and Flexible Applications
  - Creating a layered application.
  - Understanding the layers
10. Building an application using technologies covered in this module