

KOENIG SOLUTIONS · COURSE OUTLINE

Programming in HTML5 with JavaScript and CSS3

Learn to build, style and enhance interactive web applications using HTML5, CSS3 and JavaScript.

15

MODULES

39

TOPICS

32

HANDS-ON LABS

COURSE OVERVIEW

This course covers building and styling web pages with HTML5 and CSS3, then progresses to JavaScript fundamentals including the Document Object Model, form creation and validation, and communicating with remote servers. It continues with advanced CSS3 styling, custom JavaScript objects, HTML5 APIs for files, multimedia and location, offline data storage, adaptive interfaces, SVG and canvas graphics, CSS animations, web sockets, web workers, and packaging JavaScript for production deployment.

WHO THIS COURSE IS FOR

Web Developers

Front-End Developers

Software Developers

UI Developers

LEARNING OBJECTIVES

- Create and style HTML5 pages using CSS3
- Explain JavaScript fundamentals and the Document Object Model
- Build HTML5 forms and validate user input
- Implement communication with a remote server using Fetch API
- Create custom JavaScript objects and extend them
- Apply HTML5 APIs for files, multimedia and geolocation
- Add offline support using local storage and application cache
- Implement real-time communication using web sockets

15 Modules, 39 Topics

01

2 Labs

Overview of HTML and CSS

TOPICS

- Overview of HTML
- Overview of CSS
- Creating a Web Application by Using Visual Studio 2017

02

2 Labs

Creating and Styling HTML

TOPICS

Creating an HTML5 Page · Styling an HTML5 Page

03

2 Labs

Introduction to JavaScript

TOPICS

Overview of JavaScript · Introduction to the Document Object Model

04

2 Labs

Creating Forms to Collect and Validate User Input

TOPICS

- Creating HTML5 Forms
- Validating User Input by Using HTML5 Attributes
- Validating User Input by Using JavaScript

05

3 Labs

Communicating with a Remote Server

TOPICS

- Async programming in JavaScript
- Sending and Receiving Data by Using the XMLHttpRequest Object
- Sending and Receiving Data by Using the Fetch API

06

3 Labs

Styling HTML5 by Using CSS3

TOPICS

Styling Text by Using CSS3 · Styling Block Elements · Pseudo-Classes and Pseudo-Elements · Enhancing Graphical Effects by Using CSS3

07

2 Labs

Creating Objects and Methods by Using JavaScript

TOPICS

Writing Well-Structured JavaScript Code · Creating Custom Objects · Extending Objects

08

3 Labs

Creating Interactive Pages by Using HTML5 APIs

TOPICS

Interacting with Files · Incorporating Multimedia · Reacting to Browser Location and Context · Debugging and Profiling a Web Application

09

2 Labs

Adding Offline Support to Web

TOPICS

- Reading and Writing Data Locally
- Adding Offline Support by Using the Application Cache

10

2 Labs

Implementing an Adaptive User

TOPICS

Supporting Multiple Form Factors · Creating an Adaptive User Interface

11

2 Labs

Creating Advanced Graphics

TOPICS

Creating Interactive Graphics by Using SVG · Drawing Graphics by Using the Canvas API

12

2 Labs

Animating the User Interface

TOPICS

Applying CSS Transitions · Transforming Elements · Applying CSS Keyframe Animations

13

3 Labs

Implementing Real-time Communication by Using Web Sockets

TOPICS

Introduction to Web Sockets · Using the WebSocket API

14

Lab

Performing Background Processing by Using Web Workers

TOPICS

- Understanding Web Workers
- Performing Asynchronous Processing by Using Web Workers

15

Lab

Packaging JavaScript for Production Deployment

TOPICS

- Understanding Transpilers and Module Bundling
- Creating Separate Packages for Cross Browser Support

HANDS-ON LABS

Practise What You Learn

#	MODULE	ACTIVITY
01	Overview of HTML and CSS	■ Exploring the Contoso Conference Application ■ Examining and Modifying the Contoso Conference Application
02	Creating and Styling HTML	■ Creating HTML5 Pages ■ Styling HTML pages
03	Introduction to JavaScript	■ Displaying Data Programmatically ■ Handling Events
04	Creating Forms to Collect and Validate User Input	■ Creating a Form and Validating User Input by Using HTML5 Attributes ■ Validating User Input by Using JavaScript
05	Communicating with a Remote Server	■ Retrieving Data ■ Serializing and Transmitting Data ■ Refactoring the Code by Using the jQuery ajax Method
06	Styling HTML5 by Using CSS3	■ Styling the Navigation Bar ■ Styling the Register Link ■ Styling the About Page
07	Creating Objects and Methods by Using JavaScript	■ Object Inheritance ■ Refactoring JavaScript Code to Use Objects



#	MODULE	ACTIVITY
08	Creating Interactive Pages by Using HTML5 APIs	■ Dragging and Dropping Images ■ Incorporating Video ■ Using the Geolocation API to Report the User's Current Location
09	Adding Offline Support to Web	■ Caching Offline Data by Using the Application Cache API ■ Persisting User Data by Using the Local Storage API
10	Implementing an Adaptive User	■ Creating a Print-Friendly Style Sheet ■ Adapting Page Layout to Fit Different Form Factors
11	Creating Advanced Graphics	■ Creating an Interactive Venue Map by Using SVG ■ Creating a Speaker Badge by Using the Canvas API
12	Animating the User Interface	■ Applying CSS Transitions ■ Applying Keyframe Animations
13	Implementing Real-time Communication by Using Web Sockets	■ Receiving Messages from a Web Socket ■ Sending Messages to a Web Socket ■ Handling Different Web Socket Message Types
14	Performing Background Processing by Using Web Workers	Improving Responsiveness by Using a Web Worker
15	Packaging JavaScript for Production Deployment	Creating and Deploying Packages using WebPack

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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