

KOENIG SOLUTIONS · COURSE OUTLINE

Beginner to Web Application Development

Learn to build web pages and applications using HTML, CSS and JavaScript, from links and layout to forms and validation.

19

MODULES

127

TOPICS

37

HANDS-ON EXERCISES

COURSE OVERVIEW

This course starts with an overview of client-side and server-side programming before covering HTML elements such as links, images, lists and sectioning tags. It then introduces CSS for styling pages, including selectors, fonts, colour, opacity and text properties. The course moves into JavaScript fundamentals, covering variables, arrays, operators, functions, built-in objects, conditionals and loops, followed by event handlers and DOM manipulation. It concludes with building and validating HTML forms, including the use of regular expressions to check and clean up form entries.

WHO THIS COURSE IS FOR

Web Developers

Front-End Developers

Front-End Designers

Aspiring Web Developers

LEARNING OBJECTIVES

- Describe client-side and server-side programming concepts
- Apply HTML elements such as links, images and lists
- Structure web pages using semantic sectioning elements
- Style pages with CSS selectors, fonts, colour and text properties
- Implement JavaScript variables, arrays, operators and functions
- Apply conditionals and loops to control program flow
- Manipulate the HTML DOM using event handlers and listeners
- Validate HTML forms using JavaScript and regular expressions

19 Modules, 127 Topics

01

A Quick Overview of Web Development

TOPICS

Client-side Programming · Server-side Programming

02

Exercise

HTML Links

TOPICS

Absolute vs. Relative Paths · The title Attribute

03

Exercise

HTML Images

TOPICS

Inserting images · Image links · Providing alternative images

04

Exercise

HTML Lists

TOPICS

Unordered Lists · Ordered Lists · Definition Lists

05

Exercise

Sectioning a Web Page

TOPICS

Semantic block-level elements · Articles vs. Sections · Sectioning the home page · Sectioning content and styling · Heading levels and sectioning elements

06

4 Exercises

Crash Course in CSS

TOPICS

- Benefits of Cascading Style Sheets
- CSS Rules
- Selectors
- Combinators
- Precedence of selectors
- How browsers style pages
- CSS resets
- CSS normalizers
- External stylesheets, embedded stylesheets and inline styles
- <div> and
- Media Types
- Units of measurement
- Inheritance

07

Exercise

CSS Fonts

TOPICS

font-family · @font-face · font-size · font-variant · font-weight · line-height · font

08

Exercise

Color and Opacity

TOPICS

About color and opacity · Color and opacity values · Color · Opacity

09

Exercise

CSS Text

TOPICS

- letter-spacing
- text-align
- text-decoration
- text-indent
- text-shadow
- text-transform
- white-space
- word-break
- word-spacing

10

Exercise

JavaScript Basics

TOPICS

JavaScript vs. EcmaScript · The HTML DOM · JavaScript Syntax · Accessing elements · Where is JavaScript code written? · JavaScript Objects, Methods and Properties

11

3 Exercises

Variables, Arrays and Operators

TOPICS

- JavaScript Variables
- A Loosely Typed Language
- Google Chrome DevTools
- Storing User-Entered Data
- Constants
- Arrays
- Associative Arrays
- Playing with Array Methods
- JavaScript Operators
- The Modulus Operator
- Playing with Operators
- The Default Operator

12

2 Exercises

JavaScript Functions

TOPICS

Global Objects and Functions · User-defined Functions · Returning Values from Functions

13

Exercise

Built-in JavaScript Objects

TOPICS

String · Math · Date · Helper Functions

14

2 Exercises

Conditionals and Loops

TOPICS

- Conditionals
- Short-circuiting
- Switch / Case
- Ternary Operator
- Truthy and Falsy
- Loops
- while and do...while Loops
- for Loops
- break and continue
- Array: forEach()

15

3 Exercises

Event Handlers and Listeners

TOPICS

On-event Handlers · The addEventListener() Method · Anonymous Functions · Capturing Key Events · Benefits of Event Listeners · Timers

16

8 Exercises

The HTML Document Object Model

TOPICS

- CSS Selectors
- The innerHTML Property
- Nodes, NodeLists, and HTMLCollections
- Accessing Element Nodes
- Dot Notation and Square Bracket Notation
- Accessing Elements Hierarchically
- Accessing Attributes
- Creating New Nodes
- Focusing on a Field
- Shopping List Application
- Manipulating Tables

17

3 Exercises

HTML Forms

TOPICS

- How HTML Forms Work
- The form Element
- Form Elements
- Buttons
- Checkboxes
- Radio Buttons
- Fieldsets
- Select Menus
- Textareas
- HTML Forms and CSS

18

2 Exercises

JavaScript Form Validation

TOPICS

- Server-side Form Validation
- HTML Form Validation
- Accessing Form Data
- Form Validation with JavaScript
- Checking Validity on Input and Submit Events
- Adding Error Messages
- Validating Textareas
- Validating Checkboxes
- Validating Radio Buttons
- Validating Select Menus
- Giving the User a Chance

19

Exercise

Regular Expressions

TOPICS

Getting Started · Regular Expression Syntax · Backreferences · Form Validation with Regular Expressions · Cleaning Up Form Entries · A Slightly More Complex Example

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
02	HTML Links	Exercise 1: Adding Links
03	HTML Images	Exercise 2: Adding images to the page
04	HTML Lists	Exercise 3: Creating Lists
05	Sectioning a Web Page	Exercise 4: Sectioning the pages

#	MODULE	ACTIVITY
06	Crash Course in CSS	■ Exercise 5: Creating an external stylesheet ■ Exercise 6: Creating embedded stylesheet ■ Exercise 7: Adding inline styles ■ Exercise 8: Styling div and span
07	CSS Fonts	Exercise 9: Styling fonts
08	Color and Opacity	Exercise 10: Adding color and opacity to text
09	CSS Text	Exercise 11: Text Properties
10	JavaScript Basics	Exercise 12: Alerts, Writing and Changing background color
11	Variables, Arrays and Operators	■ Exercise 13: Using Variables ■ Exercise 14: Working with Arrays ■ Exercise 15: Working with Operators
12	JavaScript Functions	■ Exercise 16: Working with Global Functions ■ Exercise 17: Writing a JavaScript Function
13	Built-in JavaScript Objects	Exercise 18: Returning the Day of the Week as a String
14	Conditionals and Loops	■ Exercise 19: Conditional Processing ■ Exercise 20: Working with Loops
15	Event Handlers and Listeners	■ Exercise 21: Using On-event Handlers ■ Exercise 22: Adding Event Listeners ■ Exercise 23: Typing Test
16	The HTML Document Object Model	■ Exercise 24: Accessing Elements ■ Exercise 25: Working with Hierarchical Elements ■ Exercise 26: Logging ■ Exercise 27: Adding EventListeners ■ Exercise 28: Adding Items to the List ■ Exercise 29: Dynamically Adding Remove Buttons to the List Items ■ Exercise 30: Removing List Items ■ Exercise 31: Preventing Duplicates and Zero-length Product Names
17	HTML Forms	■ Exercise 32: Creating a Registration Form ■ Exercise 33: Adding Checkboxes and Radio Buttons ■ Exercise 34: Adding a Select Menu and a Textarea
18	JavaScript Form Validation	■ Exercise 35: Checking the Validity of the Email and URL Fields ■ Exercise 36: Validating the Ice Cream Order Form
19	Regular Expressions	Exercise 37: Cleaning Up Form Entries

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

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