

KOENIG SOLUTIONS • COURSE OUTLINE

Programming in HTML, CSS and JavaScript (55320A)

20

MODULES

188

TOPICS

39

HANDS-ON ACTIVITIES

LEARNING OBJECTIVES

- Describe core web development technologies and client-server roles
- Build HTML documents using elements, links, images and lists
- Apply CSS rules, selectors and styles to format pages
- Style fonts, colour, opacity and text properties with CSS
- Implement JavaScript variables, arrays, operators and functions
- Apply conditionals and loops to control JavaScript program flow
- Configure event handlers and listeners to respond to user actions
- Manipulate the HTML DOM and validate forms with regular expressions

20 Modules, 188 Topics

01

Activity

A Quick Overview of Web Development

TOPICS

HTML is Part of a Team · Client-side Programming · Server-side Programming · Web Development Technologies

02

Activity

Introduction to HTML

TOPICS

- **Exercise:** A Simple HTML Document
- Getting Started with a Simple HTML Document
- HTML Elements, Attributes, and Comments
- The HTML Skeleton
- Viewing the Page Source
- Special Characters
- HTML Elements and Special Characters
- History of HTML
- The lang Attribute

03

2 Activities

Paragraphs, Headings, and Text

TOPICS

- Paragraphs
- Heading Levels
- Breaks and Horizontal Rules
- **Exercise:** Paragraphs, Headings, and Text
- The div Tag
- Creating an HTML Page
- Quoted Text
- Preformatted Text
- Inline Semantic Elements
- **Exercise:** Adding Inline Elements

04

Activity

HTML Links

TOPICS

- Links Introduction
- Text Links
- Absolute vs. Relative Paths
- Targeting New Tabs
- Email Links
- **Exercise:** Adding Links
- Lorem Ipsum
- The title Attribute
- Linking to a Specific Location on the Page
- Targeting a Specific Location on the Page

05

Activity

HTML Images

TOPICS

Inserting Images · Image Links · Adding Images to the Document · **Exercise:** Adding Images to the Page · Providing Alternative Images

06

Activity

HTML Lists

TOPICS

Unordered Lists · Ordered Lists · Definition Lists · **Exercise:** Creating Lists

07

4 Activities

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
- **Exercise:** Creating an External Stylesheet
- **Exercise:** Creating an Embedded Stylesheet
- **Exercise:** Adding Inline Styles
- div and span
- **Exercise:** Styling div and span
- Media Types
- Units of Measurement
- Inheritance

08

Activity

CSS Fonts

TOPICS

- font-family
- @font-face
- font-size
- font-style
- font-variant
- font-weight
- line-height
- font shorthand
- **Exercise:** Styling Fonts

09

Activity

Color and Opacity

TOPICS

About Color and Opacity · Color and Opacity Values · color · opacity · **Exercise:** Adding Color and Opacity to Text

10

Activity

CSS Text

TOPICS

- letter-spacing
- text-align
- text-decoration
- text-indent
- text-shadow
- text-transform
- white-space
- word-break
- word-spacing
- **Exercise:** Text Properties

11

Activity

JavaScript Basics

TOPICS

- JavaScript vs. EcmaScript
- The HTML DOM
- JavaScript Syntax
- Accessing Elements
- Where Is JavaScript Code Written?
- JavaScript Objects, Methods, and Properties
- **Exercise:** Alerts, Writing, and Changing Background Color

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2 Activities

Variables, Arrays, and Operators

TOPICS

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

13

2 Activities

JavaScript Functions

TOPICS

Global Objects and Functions · **Exercise:** Working with Global Functions · User-defined Functions · **Exercise:** Writing a JavaScript Function · Returning Values from Functions

14

Activity

Built-In JavaScript Objects

TOPICS

- Strings
- Math
- Date
- Helper Functions
- **Exercise:** Returning the Day of the Week as a String

15

2 Activities

Conditionals and Loops

TOPICS

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

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3 Activities

Event Handlers and Listeners

TOPICS

- On-event Handlers
- **Exercise:** Using On-event Handlers
- The addEventListener() Method
- Anonymous Functions
- Capturing Key Events
- **Exercise:** Adding Event Listeners
- Benefits of Event Listeners
- Timers
- Typing Test

The HTML Document Object Model

TOPICS

- CSS Selectors
- The innerHTML Property
- Nodes, NodeLists, and HTMLCollections
- Accessing Element Nodes
- **Exercise:** Accessing Elements
- Dot Notation and Square Bracket Notation
- Accessing Elements Hierarchically
- **Exercise:** Working with Hierarchical Elements
- Accessing Attributes
- Creating New Nodes
- Focusing on a Field
- Shopping List Application
- Exercise: Logging
- **Exercise:** Adding EventListeners
- **Exercise:** Adding Items to the List
- **Exercise:** Dynamically Adding Remove Buttons to the List Items
- **Exercise:** Removing List Items
- **Exercise:** Preventing Duplicates and Zero-length Product Names
- Manipulating Tables

HTML Forms

TOPICS

- How HTML Forms Work
- The form Element
- Form Elements
- Buttons
- **Exercise:** Creating a Registration Form
- Checkboxes
- Radio Buttons
- **Exercise:** Adding Checkboxes and Radio Buttons
- Fieldsets
- Select Menus
- Textareas
- **Exercise:** Adding a Select Menu and a Textarea
- HTML Forms and CSS

JavaScript Form Validation

TOPICS

- Server-side Form Validation
- HTML Form Validation
- Accessing Form Data
- Form Validation with JavaScript
- **Exercise:** Checking the Validity of the Email and URL Fields
- Checking Validity on Input and Submit Events
- Adding Error Messages
- Validating Textareas
- Validating Checkboxes
- Validating Radio Buttons
- Validating Select Menus
- **Exercise:** Validating the Ice Cream Order Form
- Giving the User a Chance

Regular Expressions

TOPICS

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

HANDS-ON ACTIVITIES

Practise What You Learn

#	MODULE	ACTIVITY
01	A Quick Overview of Web Development	Lab 1: None
02	Introduction to HTML	Lab 1: Getting Started: A Simple HTML Document
03	Paragraphs, Headings, and Text	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON ■ Creating an HTML Page ■ Adding Inline Elements
04	HTML Links	Lab 1: Exercises included throughout lesson: Adding Links
05	HTML Images	Lab 1: Exercises included throughout lesson: Adding Images to the Page
06	HTML Lists	Lab 1: Exercises included throughout lesson: Creating Lists
07	Crash Course in CSS	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON ■ Creating an External Stylesheet ■ Creating an Embedded Stylesheet ■ Adding Inline Styles ■ Styling div and span Elements
08	CSS Fonts	Lab 1: Exercises included throughout lesson: Styling Fonts
09	Color and Opacity	Lab 1: Exercises included throughout lesson: Adding Color and Opacity to the Text
10	CSS Text	Lab 1: Exercises included throughout lesson: Text Properties
11	JavaScript Basics	Lab 1: Exercises included throughout lesson: Alerts, Writing, and Changing Background Color
12	Variables, Arrays, and Operators	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON ■ Working with Arrays ■ Working with Operators

#	MODULE	ACTIVITY
13	JavaScript Functions	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON - Working with Global Functions - Writing a JavaScript Function
14	Built-In JavaScript Objects	Lab 1: Exercises included throughout lesson: Returning the Day of the Week as a String
15	Conditionals and Loops	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON - Conditional Processing - Working with Loops
16	Event Handlers and Listeners	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON - Using On-event Handlers - Adding Event Listeners - Creating a Typing Test
17	The HTML Document Object Model	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON - Accessing Elements - Working with Hierarchical Elements - Logging - Adding EventListeners - Adding Items to the List - Dynamically Adding Remove Buttons to the List Items - Removing List Items - Preventing Duplicates and Zero-length Product Names
18	HTML Forms	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON - Creating a Registration Form - Adding Checkboxes and Radio Buttons - Adding a Select Menu and a Textarea
19	JavaScript Form Validation	LAB 1: EXERCISES INCLUDED THROUGHOUT LESSON - Checking the Validity of the Email and URL Fields - Validating the Ice Cream Order Form
20	Regular Expressions	Lab 1: Exercises included throughout lesson: 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.

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