



Full Stack Development Course Syllabus

Static Website Design

1. Software Development Fundamentals

- Importance of Frontend
- Fundamentals
- Syntax
- Debugging
- Tweaking Code

2. HTML Basics

- HTML Elements
- HTML Headings
- HTML Paragraphs
- HTML Button
- HTML Attributes
- HTML Images
- HTML Hyperlinks
- HTML Containers
- HTML Lists

3. CSS Basics

- CSS Rulesets
- CSS Properties
- CSS Colors
- CSS Units
- CSS Box Model
- CSS Margins
- CSS Paddings
- CSS Borders

4. Bootstrap Components

- Carousel
- Embedding Videos
- Course Project

Responsive Website Design

1. Intermediate CSS

- Block vs inline elements
- CSS Selectors
- Class Selector
- Id Selector
- Type Selector
- CSS Specificity
- CSS Inheritance
- CSS Cascading

2. Bootstrap

- Bootstrap Grid System
- Container
- Row
- Column
- Bootstrap utilities
- Display utilities
- Flex utilities
- Sizing utilities
- Spacing utilities
- Navbar
- Buttons
- Colors
- Course Project

Java Full Stack Specialization

Programming with Python

1. Functions & Data Structures

- Recursion
- Lists and List Methods
- Tuples & Sequences
- Sets & Dictionaries

2. Object-Oriented Programming

- Classes & Objects in Python
- Attributes & Methods
- Inheritance & Polymorphism

3. Working with Python Standard Library

Developer Fundamentals

1. Introduction to OS & Networks

- Overview of OS Concepts
- Networks & Internet
- Network Layer
- Application Layer
- Web Servers

2. Working with Command Line

- Files & File System
- Managing System Packages
- Environment Variables
- Network & SSH

3. Collaborating with Git

- VCS & Git Repositories
- Staging Area & Commits
- Working with Branches
- Issues & Pull Requests

Java Full Stack

1. Java Fundamentals

- Data Types, Variables & Operators
- Reading Input & Formatting Output
- Conditions & Loops
- Arrays
- Java Collections

2. OOP with Java

- Classes & Objects
- Attributes & Methods (Instance, Static, Class)
- Abstraction
- Inheritance
- Public, Private, Protected Scopes
- Encapsulation
- Method Overloading & Overriding
- Interfaces
- Polymorphism
- Generics & Exceptions
- Multi threading
- Important Design Patterns

3. Backend with Spring Boot

- Overview of Spring Framework
- Building Java Projects with Maven/Gradle
- Building REST APIs with Spring Boot

- Consuming RESTful Web Services
- Working with Relational Data using JDBC
- JPA and Hibernate
- Uploading Files & Validating Form Inputs
- Writing Unit Tests
- Overview of Spring Batch
- Overview of Spring Integration
- Overview of Spring Cloud
- Overview of Spring AOP

Dynamic Web Applications

1. Introduction to JavaScript

- Data Types
- Variables
- Basic Operators
- Conditionals
- Loops
- Functions
- Arrays
- Objects
- Control Flow
- Comments
- Math Function

2. DOM Manipulation

- The JavaScript Console
- Introduction to the DOM
- Defining the DOM
- Select and Manipulate
- Important Selector Methods
- Manipulating Style

- Manipulating Text and Content
- Manipulating Attributes
- Local Storage

3. Forms

- The form element
- The label element
- The input element
- The option element
- The optgroup element
- The button element
- The select element
- The textarea element
- Form validations and Input
- Validations

4. Array Methods

- Adding & Removing Elements
- Push
- Unshift
- Splice
- Pop
- Shift
- Finding Elements
- Find
- indexOf
- Concat

5. Events, Fetch & Callbacks

- How to add Event Listeners
- Callbacks
- Schedulers

- SetTimeout
- ClearTimeout
- setInterval
- clearInterval
- Hypertext Transfer Protocol (HTTP)
- HTTP Requests using Fetch
- HTTP Responses
- Working with JSON data

Intermediate JavaScript

1. Rest parameters and spread syntax

- Destructuring Arrays
- Destructuring Objects

2. More Objects

- Constructor Functions
- Factory Functions
- Constructor Method
- New keyword

3. Prototypes & ES6 Classes

- Built-in Constructor Functions
- Constructor Property
- Inheritance
- This in classes

4. This

- This in methods
- Window scope
- This in function declarations

- This in events

5. Asynchronous JS

- Async/Await
- Promises
- Scope & Hoisting in JavaScript

1. Array Methods

- Map
- Filter
- Reduce

2. String Manipulations

- Trim & split Methods
- ToUpperCase & ToLowerCase Methods
- Includes Method

Intermediate Responsive Web Design

1. CSS Layouting

- CSS Flexbox
- Display
- Ex-wrap
- Ex-grow
- Ex-direction
- Ex-ow
- Ex-shrink
- Justify-content

- Align-content
- Order
- Align-items
- Align-self
- Sizing Elements
- Overflow
- Box Sizing
- Content Box
- Border Box

2. CSS Media Queries

- Media Query
- Media Types
- Media Features
- Width, min-width, max-width
- Height, min-height, max-height
- Orientation

Combining Multiple Media Features in a single Media Query

- Logical Operators (and)
- Logical Operators (,)
- Logical Operators (not)
- React JS - Getting started

1. Introduction to React JS

- Why React?
- Stateful + Stateless components
- Hello World
- Introducing JSX

- Rendering Elements
- Components and Props
- State and Lifecycle
- Handling Events
- Conditional Rendering
- Lists and Keys
- Forms
- Composition vs Inheritance
- Thinking In React

2. CSS in JS

- Styled Components
- Emotion

3. Routing

- Query parameters
- Path parameters

4. Authentication and Authorization