



Curriculum Of Full Stack With Python

WEB DESIGNING (HTML)

MODULE 1: WEB PROGRAMMING INTRODUCTION

- Architecture of a website
- Different technologies in making the website
- Web Development Introduction

MODULE 2: HTML-INTRODUCTION

- History of HTML
- What you need to do to get going and make your first HTML page
- What are HTML Tags and Attributes?
- HTML Tag vs. Element
- HTML Attributes

MODULE 3: HTML-HEADERS

- Title
- Base
- Link
- Styles
- Script
- Meta

MODULE 4: HTML-BASIC FORMATTING TAGS

- HTML Basic Tags
- HTML Formatting Tags
- HTML Color Coding

MODULE 5: HTML-GROUPING USING DIV SPAN

- Div Tag
- Span Tags

MODULE 6: HTML SEMANTIC ELEMENTS

- <article>
- <aside>

- <details>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>

MODULE 7: HTML-LISTS

- Unordered Lists
- Ordered Lists, Definition list

MODULE 8: HTML-IMAGES

- Image and Image Mapping
- Background Images

MODULE 9: HTML-HYPERLINK

- Anchor Tag.
- URL - Uniform Resource Locator
- Relative and Absolute Address

MODULE 10: HTML-TABLE

- < table >
- < th >
- < tr >
- < td >
- < caption >
- < thead >
- < tbody >
- < tfoot >
- < colgroup >
- < col >

MODULE 11: HTML-I FRAME

- Using I frame as the Target



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MODULE 12: HTML-FORM

- HTML Forms
- HTML Form Attributes
- HTML Form Elements
- HTML Input Types
- HTML Input Attributes
- HTML Input form Attributes
- < text area >
- < button >
- < select >
- < label >

MODULE 13: HTML GRAPHICS

- HTML Canvas Graphics
- HTML SVG Graphics

MODULE 14: HTML MEDIA

- HTML Media
- HTML Video & Audio
- HTML Plug-in
- HTML YouTube

MODULE 15: HTML APIS

- HTML Geolocation
- HTML Drag/Drop
- HTML Web Storage & Workers
- HTML SSE

CSS

MODULE 1: CSS INTRODUCTION

- What is CSS?
- Why Use CSS?
- CSS Syntax

MODULE 2: CSS CORE PROPERTIES

- CSS Color
- CSS Backgrounds

- CSS Box Model
- CSS Borders
- CSS Margins
- CSS Paddings
- CSS Box Sizing

MODULE 3: CSS UNITS

- Absolute Units, Relative Units
- Max-Width, Min-Width

MODULE 4: CSS STYLING

- CSS Text
- CSS Fonts
- CSS Outline
- CSS Alignment
- Important

MODULE 5: STYLING ELEMENTS

- Links
- Lists
- Dropdowns
- Tables
- Images
- Image-Sprite
- Image-Filters
- Clip-Path
- Forms

MODULE 6: NAVBAR

- Vertical-Navbar
- Horizontal-Navbar

MODULE 7: CSS SELECTORS

- Simple Selectors
- Combinator selectors
- Pseudo-class selectors
- Pseudo-elements selectors
- Attribute selectors



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MODULE 8: CSS POSITIONS

- Position
- Z-Index
- Float
- Clear
- Overflow

MODULE 9: CSS LAYOUTS

- Display
- Block
- Inline
- Inline-Block
- Grid
- Flex-Box

MODULE 10: CSS TRANSFORMATION

- CSS 2D Transforms
- CSS 3D Transforms
- CSS Transition
- CSS Animations

MODULE 11: CSS RESPONSIVE

- Responsive Introduction
- Responsive Viewport
- Responsive Breakpoint
- Media Queries

JAVASCRIPT

MODULE 1: INTRODUCTION

- What is JavaScript?
- Why Use JavaScript?
- Syntax
- Statements
- Comments

MODULE 2: LANGUAGE SYNTAX

- Data Types

- Variable Declarations
- Var vs. Let
- Constant
- Dynamic Type
- Type of
- Type Conversion
- Objects
- Arrays

MODULE 3: OPERATORS

- JavaScript Operators.
- Arithmetic Operators
- Assignment Operators
- Comparison Operators
- Equality Operators
- Ternary Operators
- Logical Operators
- Bitwise Operators

MODULE 4: CONTROL STATEMENT

- if
- else
- if/else
- switch/case

MODULE 5: LOOP STATEMENT

- for
- for/in
- for/off
- while
- do/while
- Infinite loop
- Break
- Continue

MODULE 6: JAVASCRIPT HTML DOM

- HTML Document object Model
- DOM Methods



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- DOM Documents
- DOM Elements
- DOM HTML
- DOM Forms
- DOM CSS
- DOM Events
- DOM Event Listener
- DOM Navigation
- DOM Nodes
- DOM Collections
- DOM Node Lists

MODULE 7: JAVASCRIPT HTML BOM

- HTML Browser object Model
- JS Window
- JS Screen
- JS Location
- JS History
- JS Navigator
- JS Popup Alert
- JS Timing
- JS Cookies

MODULE 8: ARRAY

- Array Introduction
- Adding, Deleting, Modifying Element
- Searching Element
- Emptying Element
- Combining and Slicing Array
- Spread Operator
- Looping with Array
- Filtering with Array
- Mapping with Array
- Reducing an Array

MODULE 9: FUNCTIONS

- Function Declarations.
- Hoisting

- Arguments
- The Rest Operators
- Default Parameters
- Getter and Setters
- Try and Catch
- Local vs. Global Scope
- this keyword

MODULE 10: OBJECTS

- Basics
- Factory Functions
- Constructor
- Dynamic Nature of Object
- Functions are Objects
- Value vs. Reference Type
- Enumerating Properties of an Object
- Cloning an Object
- String
- Date

MODULE 11: BUILT-IN OBJECTS

- Number
- Math
- String
- Array
- Date
- Boolean
- Regex

MODULE 12: EVENTS

- Introduction
- Mouse, Keyboard, Form Events
- Document/Window Events

MODULE 13: INTRODUCTION TO OOP CONCEPT

- Prototype, Module pattern
- Augmenting type



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- Closure
- ES6 Introduction
- Let & Const
- Arrow Functions
- Class and Inheritance
- Rest and Map Operators
- Export and Import
- Modules

MODULE 14: JAVASCRIPT WEB API

- API Introduction
- Forms API
- History API
- Storage API
- Worker API
- Fetch API
- Geolocation API

MODULE 15: JAVASCRIPT AJAX

- AJAX Introduction
- AJAX XMLHttpRequest
- AJAX Request
- AJAX Response

MODULE 16: JAVASCRIPT JSON

- JSON Introduction
- JSON Syntax
- JSON Data Types
- JSON Parse
- JSON Stringify
- JSON Objects
- JSON Arrays

JQUERY

- Getting started with jQuery
- Selecting elements
- Manipulating the page

- Traversing the DOM and chaining
- jQuery Utility Methods
- Handling events and event delegation
- AJAX, JSON and Deferred
- Enhancing with Animation effects
- Grids, Tables with AJAX, Pagination, jQuery UI
- jQuery Best Practices

BOOTSTRAP 5

MODULE 1: INTRODUCTION

- Introduction
- Quick Styles After Dark
- Our First Web Page
- What's inside?
- Scripts & Styles
- Core concepts
- Summary

MODULE 2: LAYOUT WITH BOOTSTRAP

- Introduction
- Grid Layouts
- Simple Layout
- Fixed Grids & Fluid Grids
- Responsive Design
- Responsive Utilities
- Inspiration
- Summary

MODULE 3: EVERYDAY BOOTSTRAP

- Introduction
- Typography
- Tables
- Forms
- Buttons
- Images & Icons
- Summary



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MODULE 4: BOOTSTRAP COMPONENT

- Introductions
- Drop Down Menu
- Buttons with Menus
- Tabs & Pill
- The Navbars
- Heros, Badgets
- Labels And media
- Summary

MODULE 5: BOOTSTRAP AND JAVASCRIPT

- Introduction
- More Buttons
- Modals
- Tooltips And Popovers
- Carousel
- Summary

REACT

MODULE 1: INTRODUCTION OF JAVASCRIPT ES 5 AND Es6

- Basic JavaScript
- Object Based JavaScript
- Introduction to Es6
- JavaScript Helpers (for Each, filter, map, Filter, every, some)
- String Literals
- DE structuring
- Rest parameters & spread operator
- Arrow function
- Default parameter
- Class: Inheritance, constructor
- Promise

MODULE 2: INTRODUCTION TO REACTJS

- What React JS?
- Why use React JS?
- What is Single Page Application?

- Why SPA?
- React JS Version
- REACT DOM
- REACT VIRTUAL DOM

MODULE 3: SET UP REACT JS ENVIRONMENT

- What is CLI: create-react-app project name
- Advantage using CLI
- How to debug React JS application.
- Installation CLI
- Install Node JS & React JS
- Create a hello world example
- Create React JS Project
- Understanding of Folder Structure
- How to debug React JS application
- Introduction of Babel

MODULE 4: BASIC FEATURES OF REACTJS AND COMPONENTS

- React Concepts
- JSX
- Render Elements
- Types of Components
- Class Components
- Life Cycle Method of Class components
- Functional Components
- HOOKS in detail
- Use of HOOK
- What is state
- React Forms
- Components and Props
- State and Lifecycle Handling Events
- Practice on above topics

MODULE 5: ROUTING WITH REACT ROUTER

- Setting Up React router



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- Install/ Uninstall React router
- React Router Version 5
- React router Version 6
- Setting up react router
- Understand routing in single page applications
- Working with Browser Router components
- Configuring route with Route component
- Making routes dynamic using Route params
- Working with nested routes
- Navigating to pages using Link and Nav Link Component
- Redirect routes using Redirect Component

MODULE 6: KEY FEATURES OF REACTJS

- Conditional Rendering
- Lists and Keys
- Forms

MODULE 7: EVENT HANDLING IN REACT

- Understanding React event system
- Passing arguments to event handlers

MODULE 8: WORKING WITH FORMS

- Controlled components
- Understand the significance to default Value Prop
- Using react ref prop to get access to DOM element

MODULE 9: INTRODUCTION TO REDUX

- What is React Redux
- Why React Redux
- Redux Install and setup
- Actions

- Reducers
- Store
- High Order Component
- Understanding map State To Props and map Dispatch To Props Usage

MODULE 10: REDUX ADVANCED

- Async Actions
- Middleware
- What is redux saga
- Install and set up redux saga
- Working with Saga helpers (Crud Operation)
- Sagas vs Promises

MODULE 11: REACT WITH DESIGN FRAMEWORK

- Material UI for design
- Formic Validation

MODULE 12: REACT API'S

- Introduction https Request
- Introduction Axios NPM
- Introduction Slider NPM
- Integration of any NPM modules
- Introduction of Google Map NPM

PYTHON

MODULE 1: INTRODUCTION TO PYTHON

- What is Python and history of Python?
- Unique features of Python
- Python-2 and Python-3 differences
- Install Python and Environment Setup
- First Python Program
- Python Identifiers
- Keywords and Indentation
- Comments and document interlude in Python



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- Command line arguments
- Getting User Input
- Python Data Types
- What are variables?
- Python Core objects and Functions
- Number and Math's
- Week 1 Assignments

MODULE 2: LIST, RANGES & TUPLES IN PYTHON

- Introduction
- Lists in Python
- More About Lists
- Understanding Iterators
- Generators, Comprehensions and Lambda expressions
- Introduction
- Generators and Yield
- Next and Ranges
- Understanding and using Ranges
- More About Ranges
- Ordered Sets with tuples

MODULE 3: PYTHON DICTIONARIES AND SETS

- Introduction to the section
- Python Dictionaries
- More on Dictionaries
- Sets
- Python Sets Examples

MODULE 4: INPUT AND OUTPUT IN PYTHON

- Reading and writing text files
- writing Text Files
- Appending to Files and Challenge
- Writing Binary Files Manually
- Using Pickle to Write Binary Files

MODULE 5: PYTHON BUILT IN FUNCTION

- Python user defined functions
- Python packages functions
- Defining and calling Function
- The anonymous Functions
- Loops and statement in Python
- Python Modules & Packages

MODULE 6: PYTHON OBJECT ORIENTED

- Overview of OOP
- Creating Classes and Objects
- Accessing attributes
- Built-In Class Attributes
- Destroying Objects
- Pillars of OOPS
- Inheritance
- Encapsulation
- Polymorphism
- Abstraction

MODULE 7: PYTHON EXCEPTIONS HANDLING

- What is Exception?
- Handling an exception
- try....except...else
- try-finally clause
- Argument of an Exception
- Python Standard Exceptions
- Raising an exceptions
- User-Defined Exceptions

MODULE 8: PYTHON REGULAR EXPRESSIONS

- What are regular expressions?
- The match Function
- The search Function
- Matching vs searching
- Search and Replace



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MODULE 9: ADVANCE FUNCTION

- Lambda function
- Syntax of lambda function
- Execution of lambda function
- Filter function -how it work with normal & lambda function
- Map function
- Reduce function

MODULE 10: USING DATABASES IN PYTHON

- Python MySQL Database Access
- Install the MySQL dB and other Packages
- Create Database Connection
- CREATE, INSERT, READ, UPDATE and DELETE operation
- DML and DDL Operation with Databases
- Performing Transactions
- Handling Database Errors

DJANGO

MODULE 1: DJANGO INTRODUCTION

- Introduction about Django and Django Components
- Installing & Configuring Django Components Django
- Pre-Requisites Downloading & Installing Django Choosing a Database Creating a New Project

MODULE 2: DJANGO VIEW

- The basics: URLConfs, View functions, Shortcuts, Decorators,
- File Uploads: Overview, File objects, Storage API, Managing Files
- Class-based Views: Overview, Built-in display views, Built-in editing views, Using mixins, API reference

- Advanced: Generating CSV, Generating PDF

MODULE 3: DJANGO TEMPLATE

- Basics Overview
- Language overview, Built-in tags and filters
- Template API, Custom tags and filters
- Django Template Language
- Static and Media file
- Template merging using static and media file.

MODULE 4: DJANGO MODEL

- Models: Introduction to models, Field, types, Meta options, Model class
- Query Sets: Making queries, Query Set method, Lookup expressions
- Model Instances: Instance methods, Accessing related objects
- Migration: Introduction to Migrations
- Advanced: Managers, Transactions, Aggregation, Search, Custom fields, Query Expressions, Conditional Expressions Database Functions

MODULE 5: DJANGO FORMS AND MODEL FORMS

- The basics: Overview, Form API, Built-in fields, Built-in widgets
- Advanced: Forms for models, Integrating media, Form sets, Customizing validation
- Session and Cookies Management.
- Introduction of Session
- Type of Session storage
- Introduction of Cookies
- Advanced: Forms for models, Integrating media, Form sets, Customizing validation



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MODULE 6: DJANGO ADMIN

- Admin site
- Admin actions
- Admin Customizations

MODULE 7: DJANGO REST FRAMEWORK

- REST Framework Introduction
- Installation of REST Framework
- Web browsable API
- Creating and Consuming REST API
- Consuming and Sending JSON Data through REST
- Requests and Responses.
- Serialization, Model Serializer
- Access REST using POSTMAN, JavaScript, Console Application,
- Window Application
- Security in REST (BASIC, Session, Token Authentication)

MODULE 8: PROJECT WORK

- Introduction E-commerce Project
- Modules of E-Commerce (User, Admin, Customer, Account, Cart etc.)
- Integration of all modules

MODULE 9: DEPLOYMENT PROCESS

- Settings: Overview, Full list of Settings
- Cloud Deployment (Digital Ocean, Heroku, Python anywhere)