CCBP TECH 4.0 INTENSIVE

With Industry-Ready Certification (IRC)

Full Stack Developer

(Frontend Specialization)

Become a full stack developer with a focus on frontend development. Build responsive, stateful, and real-time frontend applications using emerging frameworks and architect cross-browser and cross-platform applications.

Programming Foundations

You will learn the fundamental concepts of programming and gain the confidence to code in Python. You will learn to write programs and use the right data structures to solve problems.

Fundamentals of Programming

- Operators, Datatypes & Variables
- Strings & Numbers
- Conditional Statements
- Loops
- String Methods

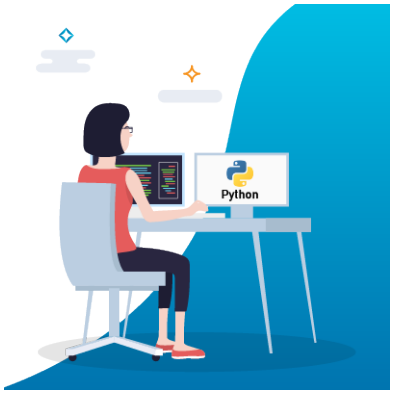
Functions & Data Structures

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

Course Project
Tic-Tac-Toe

Building a Tic-Tac-Toe game

OOP with Python



You will understand the versatility of Python and will apply it to automate a broad range of tasks. You'll also learn to build modular software with Object-Oriented Principles

Standard & Third-Party Library

- Modules & Packages
- Working with Standard Library
- Managing Third-party Packages with PIP

Object-Oriented Programming

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

Course Project
Web Scraper

Scraping Websites with Python

Developer Fundamentals

You will learn the essentials of Operating Systems, Networks and use some essential developer tools like Command-Line and Git. You'll learn to version your software with Git and push your code to GitHub

Introduction to OS & Networks

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

Working with Command Line

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

Course Project
Command-Line App

Command-Line App to Encrypt Folders

Collaborating with Git

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

Static Website Design

This course helps you build a strong foundation on web technologies such as HTML, CSS. With this, you will create and publish simple and beautiful websites from scratch.

Introduction to Web

- Client-Server Architecture

HTML Basics

- Getting Started
- HTML Headings
- HTML Paragraphs
- HTML Elements
- HTML Attributes
- HTML Images
- HTML Hyperlinks
- HTML Containers

CSS Basics

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

Course Project
Portfolio Website

Build your portfolio web page by using HTML5 and CSS3.

JavaScript - ES6 Fundamentals

In this course, you will understand the fundamental concepts in JavaScript and apply them to build dynamic and interactive web projects. You will also learn scope, hoisting and the fundamentals necessary to use modern frameworks like React, Angular and Vue. You'll master key functional methods like map, reduce and filter plus promises and ES6+ asynchronous JavaScript!

Introduction to JavaScript

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

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

Forms

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

Events

- How to add Event Listeners

Course Project
Calculator

Build a Calculator application using HTML, CSS, JS.

Introduction to Database

Learn about the incredibly prevalent databases today. Through this course, you'll develop strong fundamentals and be proficient in concepts related to Databases and DBMS. Most importantly, you'll also be able to perform powerful queries on databases using SQL.

Introduction to Database

- Introduction
- SQL
- Aggregation, Relationships, Join
- Normalisation & Advanced SQL Querying
- ACID Properties

Course Project

Analyzing Data & Generating Business Insights

Generate insights from raw data by applying various complex aggregations and advanced queries.

Introduction to Web Application Development

In this course, you'll learn how to build a backend web application using one of the most popular and mature Python web development frameworks, Django. It lets you build better web apps quicker, and with less code. This course covers various aspects of web application development like database models, routing, urls, views etc.

Intro to Django

- Introduction to MVT
- Views
- URLs
- Models

Relationships in Django

- Field Types
- Relations Between Models
- Reverse Relations
- Migrations

Querysets in Django

- CRUD Operations using ORM
- Querying using ORM
- Complex Lookups
- Querying Related Objects

Course Project
Content Management Portal

Build your first web application, A Q&A platform similar to StackOverflow using Django.

Responsive Website Design

This course helps you build a strong foundation on web technologies such as HTML, CSS, Media Queries, and Flexbox. With this, you can create a responsive web application which runs smoothly across all the devices like desktop, tablet, and mobile.

Intermediate CSS

- Block vs inline elements
- CSS display property
- CSS Specificity
- CSS Positioning

Intermediate HTML

- The Video element
- The iframe element
- HTML Lists

Flex box and Media Queries

- CSS Media Queries
- CSS Layouting using Flex box

Course Project
Gmail page

Build a responsive fluid Gmail page using HTML5, CSS Media Queries and CSS Flexbox.

Intermediate Javascript

In this course, you will learn the concepts like Events, Scope, Hoisting, this, ES6 Classes, Error handling, More about Objects and how to handle Asynchronous JavaScript.

Event Propagation

- Event Bubbling
- Event Capturing

Scope, Hoisting in JavaScript

More Objects

- Constructor functions
- Factory functions
- constructor method
- new keyword

this

- this in methods
- window scope
- this in function declarations
- this in events

Asynchronous JavaScript

- Callback
- setTimeout and clearTimeout
- setInterval and clearInterval
- Promises

Fetching Data from server

- Fetch API
- Ajax (XHR)

ES6 Classes

- Inheritance
- this in classes

Error Handling

Asynchronous JS

- Async/Await
- Event Loop

Course Project
ATM Application

Build a prototype for an ATM machine as a web application with user friendly login form.

React JS - Getting started

In this course, you will learn how to build stateful web applications with ReactJS library. When you finish this course, you will be comfortable in creating an application in ReactJS, from scratch.

Introduction to Stateful Web Applications

- Stateful Web Libraries
- Frameworks (React, Vue, Angular)

Introduction to ReactJS

- 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
- Lifting State Up
- Composition vs Inheritance
- Thinking In React

Course Project
Todo Application

Build a Todo application using ReactJS.

Modern JavaScript Tooling with React

In this course, you will learn about Package managers, Routing, how to integrate backend, and Writing unit tests, etc. When you finish this course, you will be comfortable in creating modern, clean and maintainable Dynamic websites.

Node JS

- Introduction to Node
- Using Node
- Introduction to NPM
- Installing NPM Packages
- Package Managers

React Context for State Management

ES6 Modules

CSS in JS

- Styled Components
- Emotion

Calling Backend Services

Routing

- Query parameters
- Path parameters

Authentication and Authorization

Testing React using JEST

Development Tools & Processes

- Editors & Configurations - Vscode session
- Storybook

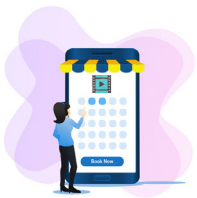
Clean and maintainable code in frontend

- Code Linting
- Code Formatting
- Cyclic import checking

Course Project
Ecommerce website

Build an Ecommerce website using ReactJS.

Capstone Project - Slot Booking Application like BookMyShow



In this project you will be developing a Slot Booking Application that provides a user an easy way of booking movie tickets online. Users can view various booking slots available and select the preferred date and time.

Tools and Technologies used

- HTML
- CSS
- JS
- AWS
  - S3
  - Route53
  - Cloudfront
- Django Web Application FrameWork
  - Using ORM
  - Django Templates
- Designing & Querying Relational Database

Capstone Project - Build a social networking web app

In this project you will be developing a Social networking web app with popular features like post, comment.

Tools and Technologies used

- HTML
- CSS
- JS
- AWS
  - S3
  - Route53
  - Cloudfront
- ReactJS

Problem Solving with Algorithms

Become a great programmer by honing your problem solving skills. Solving problems efficiently using algorithms and get ready to crack coding competitions and technical interviews

Arrays Algorithms

- Subarrays
- Subsets
- Subsequences
- Sliding Window
- Prefix Sum
- Two pointer method

Analysis of Algorithms

- Run-time of an algorithm
- Time complexity - Iterative & Recursive codes
- Space complexity - Iterative & Recursive codes
- Auxiliary space

Searching Algorithms

- Linear Search
- Binary Search

Sorting Algorithms

- Selection Sort
- Bubble Sort
- Insertion Sort
- Merge Sort
- Quick Sort
- Divide and Conquer

Complete Search

- Iterative Brute-force
- Recursive Backtracking

Bit Manipulation

- Bitwise Operators
- Bit masking
- Bit Manipulation tricks

Problem Solving with Data Structures

Learn to structure and operate on data using Data Structures. Master elementary to advanced data structures and be ready to solve coding challenges and real world problems as a developer

Linked Lists

- Singly, Double, Ciruclar Linked Lists
- Operations on Linked Lists
- Floyd's Algorithm (Tortoise & Hare)

Stacks & Queues

- Stacks
- Queues
- Implementation with Arrays and Linked Lists

Priority Queues, Heaps and Deques

- Operations on Priority Queues, Deques
- Building Priority Queues with Arrays, Heaps
- Operations on Heaps
- Heap Sort

Strings

- String Manipulation Tricks
- Palindromes
- Substring Problem solving techniques

Binary Trees & BST

- Tree Terminology
- Binary Tree Traversals - Pre, Post, In, Level order
- BST & Operations on BST

Graphs Terminologies, DFS, BFS

- Graphs Terminology
- Representation of Graphs - Adjacency Matrix, Adjacency Lists
- Graph Traversals - DFS, BFS

Contact us

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