

MERN Full Stack Curriculum

Become a full stack developer with expertise on MERN Stack. Build strong web development fundamentals and problem solving skills. Architect end-to-end web applications using emerging frameworks and create a portfolio of projects.

NXT WAVE™ | INTENSIVE

Table of Contents

Build Your Own Static Website 3

Build Your Own Responsive Website 5

Programming Foundations with Python 7

Introduction to Databases 8

Programming with Python 9

Developer Foundations 10

Build Your Own Dynamic Web Application 11

JavaScript Essentials 13

Responsive Web Design using Flexbox 14

Node JS 15

React JS 17

MongoDB 18

Capstone Project - Movies App 19

Capstone Project - Tasty Kitchens 20

Build Your Own Static Website

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.

Software Development Fundamentals

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

HTML Basics

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

CSS Basics

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

Bootstrap Components

- Carousel
- Embedding Videos

Course Project

Tourism Website

Build your Tourism Website by using HTML5, CSS3 and Bootstrap

Looking for guidance to pick the right course?



Talk to our Career Experts

bit.ly/42Hfts3

Build Your Own Responsive Website

This course helps you build a strong foundation on web technologies such as HTML, CSS and Bootstrap. 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 Selectors
  - Class Selector
  - Id Selector
  - Type Selector
  - CSS Specificity
  - CSS Inheritance
  - CSS Cascading

Course Project

Food Munch

Build a responsive Food Munch website using HTML5, CSS3 and Bootstrap Grid System.

Bootstrap

- Bootstrap Grid System
  - Container
  - Row
  - Column
- Bootstrap Utilities
  - Display Utilities
  - Flex Utilities
  - Sizing Utilities
  - Spacing Utilities
  - Colors

Bootstrap Components

- Navbar
- Buttons

Course Project

Ecommerce Website

Build a responsive Ecommerce website using HTML5, CSS3 and Bootstrap Grid System



Book a Free Demo

bit.ly/3N8hwQi

Programming Foundations with Python

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 and build modular software with Object-Oriented Principles.

Fundamentals of Programming

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

Introduction to Databases

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.

Relational Databases

- Introduction
- SQL
- Aggregation, Relationships, Join
- Querying
- ACID Properties



Avail Scholarships up to ₹16,000/-

bit.ly/42DNI3D

Programming with Python

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 and build modular software with Object-Oriented Principles.

Functions & Data Structures

- Recursion
- Lists
- Tuple
- Sets
- Dictionaries

Object-Oriented Programming

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

Working with Python Standard Library

- Collections
- Random
- Datetime
- Math

Developer Foundations

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

Collaborating with Git

- VCS & Git Repositories
- Staging Area & Commits

Build Your Own Dynamic Web Application

Introduction to JavaScript

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

DOM Manipulation

- The JavaScript Console
- Introduction to the DOM
- Select and Manipulate
- Important Selector Methods
- Manipulating Style
- Manipulating Text and Content
- Manipulating Attributes
- Local Storage

Course Project

Todos Application

Build a Todos Application using HTML5, CSS3 and JS

Forms

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

Array Methods

- Push
- unshift
- splice
- pop
- shift
- Find
- indexOf
- Concat

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

Course Project

Wikipedia Search Application

Build a Wikipedia Search Application using HTML5, CSS3, JS

JavaScript Essentials

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.

Rest parameters and spread syntax

- Destructuring Arrays
- Destructuring Objects

this

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

Prototypes & ES6 Classes

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

Asynchronous JS

- Async/Await
- Promises

Array Methods

- map
- filter
- reduce

String Manipulations

- trim & split Methods
- toUpperCase & toLowerCase Methods
- includes Method

Responsive Web Design using Flexbox

This course will help you to develop responsive layouts using CSS Flexbox and CSS Media Queries.

CSS Layouting

- CSS Flexbox
  - Display
  - Flex-direction
  - Justify-content
  - Align-items
  - Flex-wrap
  - Flex-row
  - Align-content
  - Align-self
  - Flex-grow
  - Flex-shrink
  - Order
- Sizing Elements
- Overflow
- Box Sizing
- Content Box
- Border Box

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 (not)
  - Logical Operators (,)

Node JS

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 NodeJS

- Node REPL
- Modules
- NPM CLI
- Aggregations
  - Usage of NPM Packages

Introduction to Express Web Application Framework

- HTTP Server
- Routes
- Handling HTTP Request
- Preparing HTTP Response

Fundamentals of Application Building in Express

- Integration with Database
- CRUD Operations
- Error Handling
- Middlewares

Securing APIs

- Json Web Token(JWT)
- Authentication vs Authorization
- Building Secure Web API with Express

Course Project

Twitter Web Application

Build your rest web application, A Social Networking platform similar to Twitter using ExpressJS.



Avail Scholarships up to ₹16,000/-

bit.ly/42DNI3D

React JS

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

Introduction to React JS

- Why React?
- Stateful + Stateless components
- Introducing JSX
- Rendering Elements
- Components and Props
- State and Lifecycle
- Handling Events
- Conditional Rendering
- Lists and Keys
- Forms

CSS in JS

- Styled Components
- Emotion

Routing

- Query parameters
- Path parameters

Authentication and Authorization

Course Project

Ecommerce Application

Build an Ecommerce application using React JS

MongoDB

Dive into MongoDB, one of the leading NoSQL databases. This course will help you build a strong foundation and proficiency in concepts related to MongoDB. Most importantly, you'll learn how to execute powerful queries, manipulate data, and manage complex data structures in MongoDB.

Non Relational Databases (MongoDB)

- Introduction to MongoDB
- CRUD operations
- Querying Documents
- Aggregations
- Nested Documents



Book a Free Demo

bit.ly/3N8hwQi

Capstone Project - Movies App

In this project, we will be building a Movies App, where users can log in, view account details, browse movies, including trending ones, and view movie details.

Tools and Technologies used

- HTML
- CSS
- JS
- React JS

Capstone Project - Tasty Kitchens

In this project, we will be building a Tasty Kitchens Restaurant App. Users will be able to log in, select recipes, add them to their cart, and place orders.

Tools and Technologies used

- HTML
- CSS
- JS
- React JS

Looking for guidance to pick the right course?



Talk to our Career Experts

bit.ly/42Hfts3

INTENSIVE

NXT WAVE™

Contact us

support@nxtwave.tech

ccbp.in/intensive

+91 93901 11761

(WhatsApp only)