

## **FULLSTACK WEB APPLICATION DEVELOPMENT CURRICULUM**

### **FRONTEND**

#### **Web Development – Prerequisite**

- JavaScript
- HTML5
- CSS

#### **React/Redux**

- SPA / MPA
- ES6 & JSX
- package.json
- React DOM & Render Method
- String Interpolation / Data Binding / Two Way Data Binding
- Class / Functional
- Props
- State
- Component Lifecycle Methods
- Components / Containers
- Events
- Forms
- Styling
- Components Interacting
- Conditional / Dynamic Rendering
- HTTP Requests
- Hooks & Rules of Hooks
- Redux – Store / Action / Reducer / Dispatcher
- Prop Validation

### **BACKEND**

- Fundamentals of Web application Architecture
- Fundamentals of Microservice Architecture

#### **Spring boot/ .NET / Nodejs**

- RESTFUL / RESTLESS
- CRUD Operation
- HTTP Request Types – GET / POST / PUT / DELETE

- HTTP – Status Codes & Header Fields
- Application Properties
- Exception Handling
- ORM
- Synchronous vs Asynchronous calls
- CORS

## **Data structures**

- Stack
- Queues
- Linked lists
- Trees
- Graph

## **Algorithms**

- Sorting
- Searching
- Divide and Conquer
- Greedy
- Dynamic Programming
- Time complexity & Space complexity
- Worst, Average and Best-Case scenarios

## **OOPS**

- Polymorphism
- Inheritance
- Encapsulation
- Abstraction
- Class
- Object

## **DBMS**

- RDBMS vs NoSQL databases
- SQL – DDL, DML
- DB Normalization

# SELF-LEARNING RESOURCES

## HTML5/CSS3

<https://www.w3schools.com/html/default.asp>

## Javascript

<https://javascript.info/>

<https://nodeschool.io/>

## React

<https://www.30daysofreact.com/>

[https://www.youtube.com/playlist?list=PL6gx4Cwl9DGBuKtLgPR\\_zWYnrwv-JllpA](https://www.youtube.com/playlist?list=PL6gx4Cwl9DGBuKtLgPR_zWYnrwv-JllpA)

<https://reactjs.org/tutorial/tutorial.html>

## Java/Springboot

<https://www.udemy.com/course/java-8-basics-for-beginners-c/>

<https://www.javabrainz.io/courses/springboot-quickstart>

## DBMS

<https://www.w3schools.com/sql/default.asp>

<https://www.geeksforgeeks.org/dbms/>

## Fullstack web development

<https://www.freecodecamp.org/>