Gigaversity

Full Stack Web Development Curriculum Structure

Frontend Development

HTML & CSS Fundamentals

HTML Basics: Document structure, Elements, Attributes, Semantic HTML

- **CSS Fundamentals**: Selectors, Properties, Box Model, Typography
- **CSS Layout**: Flexbox, Grid, Positioning
- **Advanced CSS**: Media Queries, Animations, Transitions

Bootstrap Framework

- **Bootstrap I**: Grid System, Components, Utilities
- **Bootstrap II**: Forms, Modals, Customization
- **Bootstrap III**: Advanced Components, Theming

JavaScript Core

- **JavaScript Basics**: Syntax, Variables, Data Types, Operators
- **JavaScript Control Flow**: Conditionals, Loops, Switch Statements
- **JavaScript Functions**: Declarations, Expressions, Parameters, Return
- **JavaScript Arrays & Objects**: Methods, Properties, Iteration, Nesting
- **DOM Basics**: Selectors, Traversal, Manipulation
- **Event Handling**: Event Listeners, Propagation, Delegation
- **Browser Storage**: localStorage, sessionStorage, JSON

Modern JavaScript

- **ES6+ Features I**: Arrow Functions, Template Literals, Destructuring
- **ES6+ Features II**: Default Parameters, Spread/Rest, Modules
- **Advanced JS Concepts I**: Scope, Closures, Execution Context
- **Advanced JS Concepts II**: Higher-Order Functions, Map, Filter, Reduce
- **Advanced JS Concepts III**: Prototypes, Classes, Inheritance

Phone
8062179357

Website
www.gigaversity.in

Email
info@gigaversity.in

- **Asynchronous JS I**: setTimeout, setInterval, Callbacks

- **Asynchronous JS II**: Promises, Chain, Error Handling

- **Asynchronous JS III**: Async/Await, Try/Catch

- **Working with APIs**: Fetch API, GET/POST, Headers

- **Error Handling**: Try/Catch, Custom Errors, Debugging

React Framework

- **React Fundamentals I**: JSX, Components, Virtual DOM

- **React Fundamentals II**: Props, Component Hierarchy

- **React State**: useState Hook, State Updates

- **React Effects**: useEffect Hook, Cleanup, Dependencies

- **React Forms**: Controlled Components, Form Submission

- **React Router**: Routes, Navigation, URL Parameters

- **Advanced React I**: Context API, useContext Hook

- **Advanced React II**: Custom Hooks, useReducer

- **Advanced React III**: Optimization, Memoization, useCallback

Tools & Version Control

Git & GitHub (Week 9)

- **Git Basics**: Init, Add, Commit, Status, Log

- **GitHub Workflows**: Remote, Push, Pull, Clone

- **Collaborative Git**: Branches, Merge, Pull Requests

Backend Development

Node.js Foundation (Weeks 13-14)

- **Node.js Introduction**: Runtime Environment, Global Objects, Modules

- **Node.js Core**: File System, Events, Streams

Phone
8062179357

Website
www.gigaversity.in

Email
info@gigaversity.in

- **Node.js NPM**: Package Management, Dependencies, Scripts

- **Express Basics**: Server Setup, Routing, Request/Response

- **Express Middleware**: Built-in, Custom, Error Handling

- **REST API Development**: Routes, Controllers, HTTP Methods

Database Management

- **SQL Fundamentals**: Database Design, Tables, Relationships, Queries

- **Advanced SQL**: Joins, Subqueries, Indexes, Stored Procedures

- **MongoDB Introduction**: Setup, Collections, CRUD Operations

- **Mongoose ODM I**: Schema, Models, Validation

- **Mongoose ODM II**: Relationships, Population, Advanced Queries

Security & Testing

- **API Testing**: Postman, Error Handling, Validation

- **Authentication**: JWT, Bcrypt, Protected Routes

- **Authorization**: User Roles, Permissions, Access Control

Full Stack Integration

Frontend-Backend Integration (Weeks 17-18)

- **Front-Back Integration I**: Axios, API Consumption, Cors

- **Front-Back Integration II**: Auth Context, Protected Components

- **Full Stack Debugging**: Error Handling, Logging, Testing

- **Data Management**: Data Flow, State Updates, Cache Strategies

Phone
8062179357

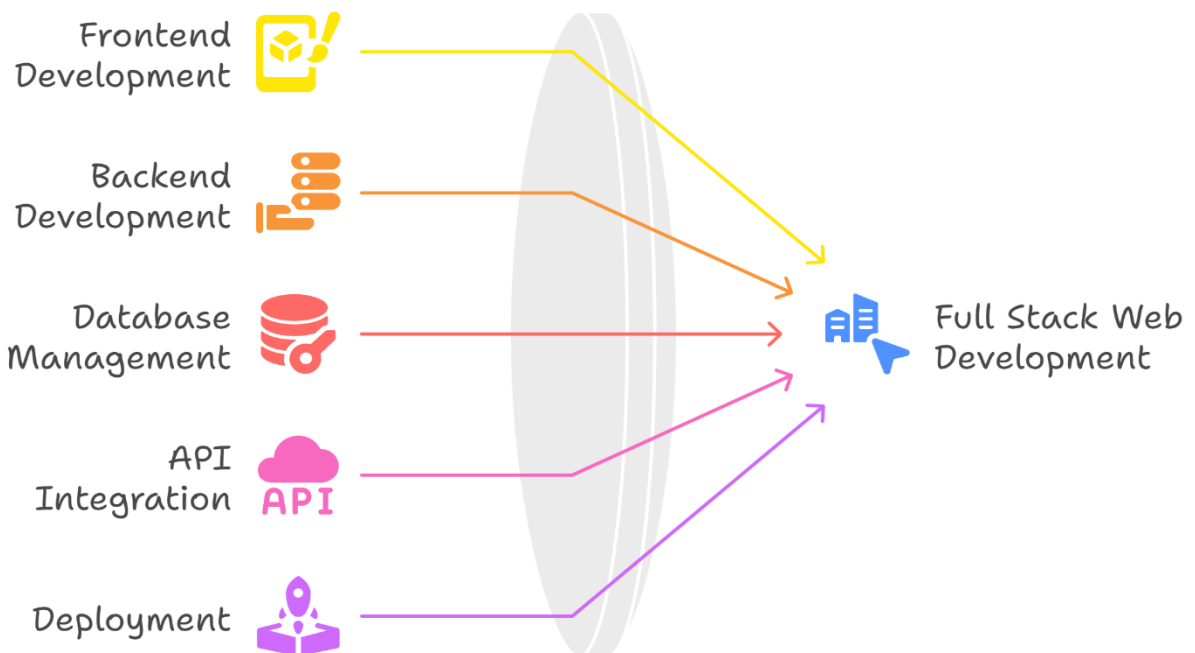**Website**
www.gigaversity.in

Email
info@gigaversity.in

Deployment

Production Deployment (Week 18)

- **Deployment Preparation**: Environment Variables, Security, Optimization

- **Project Deployment**: Vercel/Netlify for Frontend, Render/Heroku for Backend

Building a Digital Ecosystem

Frontend Development → Full Stack Web Development
Backend Development → Full Stack Web Development
Database Management → Full Stack Web Development
API Integration → Full Stack Web Development
Deployment → Full Stack Web Development

Phone
8062179357

Website
www.gigaversity.in

Email
info@gigaversity.in