Course Outline: Web Development with React

Course by:

Sheikh Kamal IT Business Incubator, CUET
Chattogram-4349, Bangladesh.

Course Summary

No.	Subject	Comments
1	Course Duration	72 Hours (24 Classes, 12 Weeks)
2	Pre-requisites	Yes ● Basic understanding of programming concepts ● Familiarity with HTML and CSS ● Some knowledge of JavaScript ● Comfortable using the command line interface (CLI)
3	Lab Facilities	SKITBI, CUET will provide.

Schedule

Batch – 01 (Offline): Friday & Saturday 10 am to 1 pm
Batch – 02 (Online): Friday & Saturday 3 pm to 6 pm

Coordinator

Professor Dr. M. Moshiul Hoque
Professor, Dept of CSE, CUET
Director, Sheikh Kamal IT Business Incubator in CUET
Former Dean, Faculty of Electrical & Computer Engineering, CUET
Chair, IEEE Bangladesh Section

Trainers

Ratul Bhowmick
Senior Software Engineer,
Programming Hero

Tanvir Ibn Touhid
Senior Software Engineer,
Diligite Ltd.

What will you learn?

- **JavaScript Fundamentals:** Master the core concepts of JavaScript including variables, control structures, functions, and ES6 features.
- **HTML and CSS with Tailwind:** Gain proficiency in HTML and CSS, and learn the utility-first approach of Tailwind CSS for efficient styling.
- **Git and Version Control:** Understand version control concepts and learn to use Git for collaborative development.
- **Introduction to Web Development with React:** Get familiar with React.js, setting up the development environment, and basic web technologies like HTML, CSS, and JavaScript.
- **React Components and Styling:** Learn to create and style React components using CSS or CSS-in-JS libraries.
- **Routing and Navigation in React:** Implement routing and navigation using React Router.
- **Working with APIs and Data Management:** Make API calls and manage application state using React Hooks.
- **Advanced State Management in React:** Master advanced state management patterns like Redux/Zustand and Context API.
- **Advanced Topics in React:** Dive into asynchronous data fetching, testing, debugging, deployment, and project optimization techniques in React.
- **Basic Knowledge in Next.js:** Understand the core concepts of Next.js and migrate projects to Next.js for enhanced performance and functionality.
- **Project Refinement and Q&A:** Review and refine projects while addressing common challenges and questions.

Course Modules

Web App Development with React.js & Tailwind (Module Planning)

Module	Topics Covered	Duration
Module 1: JavaScript Fundamentals	-Understanding variables, data types, and basic operators in JavaScript -Mastery of control structures: if statements, loops, switch statements -Functions, scope, and closures in JavaScript -ES6 features: arrow functions, destructuring, spread/rest operators -Error handling and debugging techniques in JavaScript	10 hours
Module 2: HTML and CSS with Tailwind	-Understanding HTML elements and attributes -Familiarity with CSS selectors, properties, and layout techniques -Introduction to Tailwind CSS and its utility-first approach -Hands-on exercises and projects to apply CSS styling using Tailwind CSS	8 hour
Module 3: Git and Version Control	-Installing Git and setting up a Git repository -Basic Git commands (clone, commit, push, pull) -Branching, merging, and resolving conflicts in Git -Collaborative version control using GitHub or GitLab	3 hours
Module 4: Introduction to Web Development with React and Basic Web Technologies	-Overview of web development technologies -Introduction to React and its advantages -Setting up the development environment with Create React App -Basic understanding of JavaScript, HTML, CSS, and Git	5 hours
Module 5: React Components and Styling	-Exploring React components -Styling components using CSS or CSS-in-JS libraries -Handling user interactions and forms in React -Further exploration of Tailwind CSS integration with React	6 hours
Module 6: Routing and Navigation in React	-Introduction to React Router -Setting up routes and navigation in a React application	3 hours
Module 7: Working with APIs and Data Management in React	-Making API calls with Fetch or Axios -Managing application state with React Hooks	4 hours
Module 8: Advanced State Management in React	-Understanding advanced state management patterns (Redux/Zustand, Context API) -Implementing state management in a React application	6 hours

Module 9: Advanced Topics in Reac	-Asynchronous Data Fetching and Error Handling in React -Testing and Debugging in React -Deployment and Hosting of React Apps -Project Development and Optimization in React	10 hours
Module 10: Basic Knowledge in Next.js	-Introduction to Next.js -Next.js structure & development structure -Understanding the concept of App Router -Migrating the previous project in Next.js	12 hours
Module 11: Project Refinement and Q&A	-Reviewing and refining the project -Addressing common challenges and questions	5 hours

Frequently Asked Questions (FAQ)

Can I register for multiple courses?
-Yes, participants can register for multiple courses.

Will there be an overlap in class schedules for multiple courses
-There may be minimal overlap in class schedules, Please check the routine available at the notice board.

What are the available payment methods for online enrollment?
-Payment can be made via cash or online using the "Bkash to Bank" option.

Are there evening batches available for job holders?
-Yes, evening batches will be available. Please check the routine available on the notice board of the website.

Can I switch between online and offline classes?
-Online and offline classes are separate batches, and transfer depends on seat availability.

How will admission be confirmed?
-Admission will be confirmed upon payment; no separate admission exam will be conducted.

Will classes be conducted in locations other than the chosen one?
-No, classes will only be conducted at the chosen location, not in other cities.

What is the profile of the trainers?
-Faculty members will include both academic and industry experts.

What is the last date of enrollment?
-There is no last date of admission. After filling out the batches, enrollment will be closed.

Can I admit physically?

-Yes, Come to the third floor (Room no: 301,302) at the Multipurpose Building of Sheikh Kamal IT Business Incubator, CUET.

Will classes be held during Ramadan?

-Yes, they will.

Will a recorded version be available?

Yes, you will get lifetime access to the recorded version of the classes.