HTML to React Course Outline

Month 1: HTML & CSS Review, Introduction to JavaScript (Weeks 1-4)

Week 1: HTML & CSS Overview
- Introduction to the course, overview of HTML5 and prerequisites (VS code and a browser).
- How The internet Works and Common HTML elements (headings, p, div…).
- Images, videos, Links and Tables.
- Forms elements

Week 2: Advanced HTML and CSS concepts
- Last week Review, Introduction to CSS3 and CSS common properties.
- CSS Box model
- CSS display, positioning
- Flexbox.

Week 3: Introduction to JavaScript
- CSS Grid.
- Responsive design (responsive units)
- Responsive design (media queries)
- Basic JavaScript concepts (variables, data types, operators).

Week 4: Control flow
- JavaScript Arrays, objects and methods
- JavaScript conditionals and ternary operator
- Control flow.
- Functions.

Student Project: Todo list app (non-interactive)

Month 2: Intermediate JavaScript, Version Control, and Basic React Concepts (Weeks 5-8)

Week 5: Version Control (Git)
- Basics of version control, setting up Git repositories.
- Pull and clone.
- Branching and collaboration with Git (GitHub).
- Merge and merge conflicts

Week 6: Intermediate JavaScript
- Introduction to the DOM and basic manipulation.
- DOM manipulation (append/remove HTML element and change state).
- DOM manipulation (change element styles)
- DOM manipulation (events and listeners)

Week 7: Intermediate JavaScript
- JavaScript callback functions.
- Advanced array methods (filter, find…)
- Asynchronous JavaScript (promises, async/await).
- Arrow functions and classes.

Week 8: Putting things together
- Putting all our HTML, CSS and JavaScript Knowledge to work (Project: Product catalogue)

Project: Todo list app (interactive)
Note:
- *Students should restyle their Todo apps according to their taste.*
- *Notes can be added and removed*

Month 3: React Router, Hooks, and State Management (Weeks 9-12)

Week 9: Introduction to React
- Introduction to Node and NPM.
- Understanding React components and JSX.
- State, props, and component lifecycle.
- React events and forms.

Week 10: React Router
- Setting up navigation, basic routing.
- Nested routes.
- Route parameters and Programmatic navigation.
- Routing (Project: Dynamic product catalogue)

Week 11: React Hooks and State Management
- Introduction to React Hooks (useState, useEffect).
- React hooks (useRef) and custom hooks.
- State management with Context API.
- State management with Context API

Week 12: Version Control (Git)
- Basics of version control, setting up Git repositories.
- Pull and clone.
- Branching and collaboration with Git (GitHub).
- Merge and merge conflicts

Project: Upgrade our product catalogue to use Context API

Month 4: Advanced React Concepts and API Integration (Weeks 13-16)

Week 13: Advanced React Concepts
- Higher-order components (HOCs) and Render Props.
- Error boundaries and suspense.
- React performance optimization.
- Fetching data with fetch and Axios.

Week 14: Advanced React Concepts
- Handling asynchronous operations in React.
- Local storage and session storage.
- Authentication and authorization with React (Project: user registration and login).
- Authentication and authorization with React (Project: user Auth).

Week 15: API Integration with React
- Project: Blog

Pages:
- *All Posts*
- *Single post*
- *Posts by categories*
- *Search results*

Week 16: API Integration with React
- Project: Upgrade our Blog to use data from server

Features:
- *Add post*
- *Edit post*
- *Add Auth*

Project: Add a comment section to our app
Notes:
- *Users must be signed in to comment.*
- *Comments can be added, deleted and edited.*

Month 5: State Management with Redux, Testing, and Styling in React (Weeks 17-20)

Week 17: State Management with Redux
- Introduction to Redux and actions.
- Reducers, store.
- Connecting React with Redux.
- Upgrade our product catalogue to use redux

Week 18: Redux toolkit
- Upgrade our Blog to use redux toolkit.

Week 19: Styling in React
- CSS-in-JS libraries (e.g., styled-components).
- Day 4-5: Theming and styling best practices.
- Day 6-7: Responsive design and media queries.

Week 20: Introduction to React frameworks
- Material UI (MUI)
- Material UI (MUI styling)
- Formik
- DnDKit

Project: Use any of the above frameworks to upgrade any of our projects

Month 6: Advanced React Patterns, Deployment, and Final Project (Weeks 21-24)

Week 21: Deployment
- Building for production.
- Hosting options (Vercel, Render, etc.).
- Continuous Deployment.

Week 22-23: Final Project and Portfolio
- Work on a comprehensive React project.
- Polish and deploy the final project.
- Create a portfolio showcasing the projects and skills.
- Presentation (Practice) and feedback session.

Week 24: Final Project and Portfolio
- Fix implement ideas/suggestions from feedback sessions and issues/bugs.
- Final Presentation and feedback session.

Note: Final project will be in teams