✅ **Course Introduction**

* Project setup in VS Code
* Understanding course structure and expectations

✅ **Rendering Lists in React**

* Creating/transformation lists
* Managing **keys** for list elements

✅ **Forms in React**

* Controlled vs. uncontrolled components
* Building controlled form components and a registration form exercise

✅ **React Context API**

* Props, state, and context relationships
* Context re-rendering behavior
* Implementing a **theme switcher**

✅ **React Hooks**

* Basic hooks (useState, useEffect)
* Working with complex state using useReducer
* Accessing the DOM via useRef
* Custom hooks (e.g., usePrevious)
* Rules of hooks
* Data fetching with hooks

✅ **JSX and Children**

* JSX syntax and virtual DOM logic
* Understanding **React elements vs. components**
* Spread attributes in JSX
* **Children prop**, including:
  + Containment & specialization
  + Dynamically manipulating children using React.Children.map and React.cloneElement

✅ **Reusing Behavior**

* **Higher-Order Components (HOC)**
* **Render props pattern**
* Managing cross-cutting concerns (e.g., subscriptions)

✅ **Performance and Optimization**

* Memoization (React.memo, useMemo)
* Avoiding unnecessary re-renders
* Render efficiency best practices

✅ **Testing React Apps**

* Tools: **Jest**, **React Testing Library**
* Writing integration tests for forms
* Mock functions and querying DOM nodes
* CI integration basics

✅ **Final Project (Portfolio App)**

* Header with links
* Landing section with avatar/bio
* Featured projects grid
* Contact form
* Applying learned concepts from forms to hooks to state to testing