

COURSE TITLE	FRONT END APPLICATION DEVELOPMENT
COURSE CODE	05FN0403
COURSE CREDITS	4

Objective:

- 1 To impart a thorough understanding about Basic JS and ReactJS.
- 2 To impart a thorough understanding about Component and JSX In React.
- 3 To impart a thorough understanding about Hooks In React JS.
- 4 To impart through understanding about Styling Component In React.
- 5 To develop dynamic and responsive web applications using state management and routing in ReactJS.

Course Outcomes: After completion of this course, student will be able to:

- 1 Students will be proficient in using JavaScript to manipulate the Document Object Model (DOM), allowing them to dynamically update and interact with web page elements.
- 2 By the end of the course, students will have a comprehensive understanding of React.js fundamentals, including components, props, state management, and hooks.
- 3 Students will be capable of developing single-page web applications using React.js, leveraging its component-based architecture to create reusable and scalable UI components.
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Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	0	30	20	50	50

Contents : Unit	Topics	Contact Hours
1	Basic JS and ReactJS Overview On JavaScript, Introduction to the DOM,Introduction To the React JS, Node and React JS set up download,React Component without and with Webpack, Babel, JSX , ReactJs Project using NPM and Project directory structure, First Project In React, Render method create Element method and react DOM, React Fragment, Function base component and class base component editingapp	11
2	Component And JSX In React Composing component in react, JSX and props in react JS, Children in JSX in react,State In react, Event Handling in react, Passing Argument to The Event Handler and phases of component, Mounting and Unmounting in react,Updating in react	11

Contents : Unit	Topics	Contact Hours
3	Hooks In React JS Introduction to the hooks in react ,Use state hooks in react, Use effect hooks in react,Custom hooks in react, Conditional rendering in in react JS an dlist in react	11
4	Styling Component In React Styling component inline style in React, Styling component External Stylesheet in React,Styling component CSS module in react, Working with Images, Audio and Video in React, Working With Bootstrap in React, Form And controlled Elements In React,Control Component and Control Component Textarea, Control Multiple Input Elements In React, Handling form and Uncontrolled component ref in React JS, - Callback Refs Lifting State Up In React, Context API In React and Context Type, Higher Order Component In React	12
Total Hours		45

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Unit-1 Write a brief overview of JavaScript and its importance in web development,Explain the Document Object Model (DOM) and its significance in web development,Compare and contrast React.js with other JavaScript frameworks,Demonstrate the process of setting up Node.js and React.js by downloading and installing the necessary packages,Create a React component without using Webpack, Babel, and JSX, and then refactor it to use these technologies , Develop a React.js project using NPM and establish a proper project directory structure,Build your first project in React.js, focusing on rendering methods and creating elements,Explore React fragments, function-based components, and class-based components,Investigate how to compose components in React.js for better code organization,Discuss JSX and props in React.js and their role in component development	30

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
2	Unit-2 Investigate children in JSX and their usage in React components, Explore state management in React.js and its significance in dynamic UI development, Implement event handling in React.js components, Practice passing arguments to event handlers and understand the different phases of a React component's lifecycle, Study mounting and unmounting in React.js components, Learn about updating state and handling component updates in React.js., Introduce the concept of hooks in React.js and their importance in functional components, Utilize the useState hook in a React.js application, Implement the useEffect hook to manage side effects in React.js., Create custom hooks in React.js to encapsulate reusable logic	30
Total Hours		60

Textbook :

- 1 Learning React: A Hands-On Guide to Building Web Applications Using React and Redux, Kirupa Chinnathambi, O'Reilly Media, 2020
- 2 React Up and Running: Building Web Applications, Stoyan Stefanov, O'Reilly Media, 2016

References:

- 1 React.js Essentials, React.js Essentials, Artemij Fedosejev, Packt Publishing, 2015
- 2 Pro React 16, Pro React 16, Adam Freeman, Apress, 2017

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
20.00	30.00	25.00	15.00	10.00	0.00

Instructional Method:

- 1 PPT, BOARDWORK, PRACTICALS

Supplementary Resources:

- 1 <https://reactjs.org/docs/getting-started.html>
- 2 <https://developer.mozilla.org/en-US/docs/Web/JavaScript>
- 3 https://www.w3schools.com/js/js_intro.asp

Supplementary Resources:

- 4 https://www.w3schools.com/js/js_htmlDOM.asp
- 5 https://www.w3schools.com/react/react_intro.asp
- 6 https://www.w3schools.com/nodejs/nodejs_get_started.asp
- 7 https://www.w3schools.com/react/react_hooks.asp