

Syllabus Details

Syllabus ID:	12580
Syllabus Name:	Front-End web development with React_Phát triển web Front-End với React
Course Name English:	Front-End web development with React
Subject Code:	FER202
NoCredit:	3
Degree Level:	Bachelor
Time Allocation:	Study hour (150h) = 45h contact hours + 1h final exam + 85' practical exam + 104h self-study
Pre-Requisite:	WED201c
Description:	<p>Learn front-end web development for implementing a multi-platform solution:</p> <ul style="list-style-type: none"> - Overview of client-side web UI frameworks, focusing on Bootstrap. Students will explore grids, responsive design, and styling. - Basics of Node.js, npm - JavaScript-based front-end development with the React library: ES6 for React applications, React components, and state management. - Hooks to leverage React features like state and lifecycle in functional components, reducing reliance on class components. - Flux architecture and Redux, covering Redux principles and building React-Redux powered applications. - Fetch for client-server communication, integrating REST APIs on the server side. - Modern syntax and patterns for ReactJS development, paired with foundational knowledge to ensure a solid understanding. - AI Integration: Use of AI tools (e.g., code generation with GenAI) to enhance development efficiency and productivity. - Assessment Methods: Evaluation through practical labs, assignments, and reviews using stratified grading.
StudentTasks:	<ul style="list-style-type: none"> - Students must attend at least 80% of contact slots to be eligible for the final examination. - Students are responsible for completing all exercises assigned by the instructor in class or at home. - Regularly check announcements on FU FLM at https://flm.fpt.edu.vn/ for the latest course updates. - AI-Related Task: Utilize AI tools (e.g., GenAI for code generation or debugging) responsibly in assignments.
Tools:	<ul style="list-style-type: none"> - Visual Studio Code (https://code.visualstudio.com) - Internet - Git (Bitbucket/Github source management) - Node.js <p>AI tools</p> <ul style="list-style-type: none"> - Gemini (https://gemini.google.com/app) - Grok (https://grok.com/) - ChatGPT (https://chatgpt.com/)
Scoring Scale:	10
DecisionNo MM/dd/yyyy:	359/QĐ-DHFPT dated 04/09/2025
IsApproved:	True
Note:	
MinAvgMarkToPass:	5
IsActive:	True
ApprovedDate:	4/9/2025

3 material(s)						
MaterialDescription	Author	Publisher	PublishedDate	Edition	ISBN	IsMainN
https://getbootstrap.com/docs/5.3/getting-started/introduction/						<input checked="" type="checkbox"/>
https://react.dev/learn						<input checked="" type="checkbox"/>



9 LO(s)

CLO Name	CLO Details
CLO1	Describe Front-end Web UI Frameworks overview
CLO2	Install React application and Understand React component
CLO3	Explain JSX and ES6
CLO4	Explain the Bootstrap, React-boostrap
CLO5	Discuss the React Component Life Cycle, Forms and Routes
CLO6	Discuss Hook, Event Handling and crafting reusable component in React
CLO7	Discuss fetch and catching data in Client-Server Communication and Code Splitting Using Lazy Components and S
CLO8	Discuss Flow Architecture and Redux
CLO9	Apply AI tools in React development and evaluate their ethical use and transparency



[View mapping of CLOs to PLOs](#)

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Session	Topic	Learning-Teaching
1	Assignment Introduction with AI Integration	Offline
2	Course Introduction 1.1 Full Stack Web Development: The Big Picture 1.2 React 19 Introduction	Offline
3	1.3 Git - Setting up Git - Basic Git Commands - Setting up an Online Git repository 1.4 Node.js and npm - Setting up Node.js and npm - Basics of Node.js and npm	Offline
4	Rendering with JSX + ES 6 2.1 ES6	Offline
5	2.2 ES6 (cont'd) - Using AI to generate ES6 code snippets	Offline
6	2.3 ES6 (cont'd)	Offline
7	3.1 Rendering HTML 3.2 Creating your own JSX elements	Offline
8	3.3 Using JavaScript expressions	Offline
9	3.4 Building fragments of JSX LAB 1: Install React + JSX Basics	Offline
10	Review Lab 1	Offline
11	Review Lab 1 (td)	Offline

12	Bootstrap and React-bootstrap 4.1 Bootstrap & React-Bootstrap Introduction - Set up a project with Bootstrap & React-Bootstrap - Configure a web project to use Bootstrap and React-Bootstrap	Offline
13	4.2 Bootstrap Grid System	Offline
14	4.3 Bootstrap and React-Bootstrap CSS Components - Navigation and Navigation Bar - Icon and Fonts - User Input: Buttons and Forms - Tabular data (Table)	Offline
15	5.1 Bootstrap JavaScript Components - Tabs, Pills and Tabbed Navigation	Offline
16	5.2 Hide and Seek: Collapse and Accordion	Offline
17	5.3 Compare between Bootstrap and React-Bootstrap	Offline
18	LAB 2: Bootstrap and React-Bootstrap UI	Offline
19	Review Lab 2	Offline
20	Review Lab 2 (td)	Offline
21	React Component 6.1 What's react component? How to build it? 6.2 Component Properties	Offline
22	6.3 Component State - Setting initial component state - Creating component state - Merging component state	Offline
23	Event Handling 7.1 Declaring event handlers - Binding handlers to elements - Using synthetic event objects - Understanding event pooling	Offline
24	7.2 Using event handler context and parameters - Declaring inline event handlers LAB 3: Class vs Functional Components	Offline
25	Review Lab 3	Offline
26	Review Lab 3 (td)	Offline
27	8.1 Passing property values 8.2 Stateless Components	Offline
28	Container components 8.3 Providing and consuming context	Offline
29	8.4 Render props 8.5 Refactoring class components using hooks	Offline

30	Getting Started with Hooks 9.1 Maintaining state using Hooks	Offline
31	9.2 Performing initialization and cleanup actions	Offline
32	9.3 Sharing Data with Context Hooks	Offline
33	9.4 Using Reducer Hooks for State Management LAB 4: Hooks & Events	Offline
34	Review Lab 4	Offline
35	Review Lab 4 (td)	Offline
36	Progress Test - 01	Offline
37	Handling Navigation with Routes 10.1 Declaring routes - Decoupling route declaration	Offline
38	10.2 Handling route parameters - Resource IDs in routes - Optional parameters	Offline
39	10.3 Using link components - Basic linking - URL and query parameters	Offline
40	Code Splitting Using Lazy Components and Suspense 11.1 Using Lazy API 11.2 Using the Suspense component -Simulating latency	Offline
41	11.3 Avoiding lazy components 11.4 Exploring lazy pages and routes	Offline
42	Client - Server Communication 12.1 Set up a simple server that makes data available for clients LAB 5: Routes & Lazy Loading	Offline
43	Review Lab 5	Offline
44	Review Lab 5 (td)	Offline
45	12.2 Access the data from the server using a browser 12.3 Use the json-server as a simple static web server	Offline
46	Fetching and Catching Data with React 13.1 When to fetch and store data in React. How to use window.fetch.	Offline
47	13.2 What promises are. How async/await works.	Offline
48	13.3 Getting Data with Axios How to simplify network requests with Axios. LAB 6: Fetching Data	Offline
49	Review Lab 6	Offline
50	Review Lab 6 (td)	Offline

51	Flow Architecture and Introduction to Redux 14.1 Explain the Redux approach to implementing a variant of the Flow architecture.	Offline
52	14.2 Install and Configure Redux.	Offline
53	14.3 Define Redux Toolkit	Offline
54	Redux architecture 15.1 Split the reducer function into multiple simpler functions and combine the reducer functions 15.2 Use Redux Thunk middleware to return a function instead of an action	Offline
55	15.3 Use a logger middleware to print a log of actions initiated on the Redux store	Offline
56	Progress Test - 02	Offline
57	Assignment Evaluate	Offline
58	Assignment Evaluate	Offline
59	Assignment Evaluate	Offline
60	Assignment Evaluate	Offline

0 Constructive question(s)

5 assessment(s)

Category	Type	Part	Weight	Completion Criteria	Duration	CLO
Assignment	on-going	1	15.0%	>0	Guided in tutorials (Sessions 1), cont. at home	CLO1-CLO9
Labs	on-going	6	20.0%	>0	Guided and reviewed in tutorial sessions; Cont. at home	Lab 1: CLO1, CLO2, Lab 2: CLO4 Lab 3: CLO2, Lab 4: CLO6, Lab 5: CLO5, Lab 6: CLO7,
Practical Exam	on-going	1	20.0%	4	85'	CLO1-CLO9
Progress test	on-going	2	15.0%	>0	30' each	PT 1 CLO1 - CLO6 PT 2 CLO7 - CLO8
Final exam	Final exam	1	30.0%	4	60'	CLO1-CLO9

