Coding Ninjas

Advanced Front End Web Development Course - React.js

" Great web design without functionality is like a sports car with no engine"

~Paul Cookson

About Coding Ninjas

At Coding Ninjas, our mission is to continuously innovate the best ways to train the next generation of developers and transform how tech education is delivered. Training is designed and provided by professional developers turned educators who have experience working at bigwigs like Facebook, Amazon, Google etc. and are Stanford, IIT, IIIT alumni.

Coding Ninjas teaches 17+ Programming courses in Foundation, Advanced, Data & Development courses such as Machine Learning, Data Science, Web Development, Android and more.

Doubt Support

We have developed a very scalable solution using which we are able to solve 4000+ doubts every single day with the help of 500+ doubts on the platform itself with an average rating of 4.8 out of 5.

Placement Cell

50,000+
Students taught
so far

78%+
Percentage
placement

2500+
Students placed
in top MNCs

300+ Placement Partners | **7.6L** Average Salary
Number of placement partners and average salary of students

100+
Students recieved
International job offers

Ankush Singla
Co-Founder & Instructor

Ankush holds a Bachelor's degree in Computer Science from India's most premier institute- IIT Delhi and a Master's degree in Computer Science from Stanford University.

He is a coding enthusiast and has worked with bigwigs like Amazon and Facebook in the past.

Live Mentor Support & Student Experience Team
Dedicated TAs and Student experience team to make sure that your doubts get resolved quickly and you don't miss your deadlines.

Want A Break? Pause Your Course
Take a short break when you need it. Pause your course for upto 60 days. Resume when you are ready

Get An Industry Recognised Certificate
Get awarded with an industry recognised certificate after you complete your programming course

Be A Part Of The Learning Community
Slack groups to meet your batchmates. Learn from your peers about resources, doubts and more!

Programme Overview

○ Course Overview

This course will help you to learn the concepts of Front End React JS Development by learning HTML, CSS, JavaScript, ES6, React JS and jQuery for a stronger foundation. This will start with training you in designing basic web pages, creating user-friendly websites, styling and animating various elements on them to make you an expert front end web developer.

○ Features

60⁺

Hours of video content

250⁺

Problems

WHY
Advance Front End Web Development with React?

○ It is easy to learn and just by understanding the basics of it you would get you started with building useful web apps.

○ It's components are reusable

○ You can use any technology with React.

○ It saves your time

Companies Hiring

amazon **Adobe** **Linked in**

intel. **slack** **Google**

ORACLE **zomato** **Flipkart**

Course Outcome

- **INTRODUCTION TO PROGRAMMING**
  Learn the basics of the most popular programming languages (C++ /Java / Python) and become an expert in the core fundamentals of programming.

- **DATA STRUCTURES AND ALGORITHMS**
  Data structures and algorithms is all about organising the information and finding the most efficient approach to solve a problem. Learning these concepts will in turn help you to improve your problem-solving skills and solve any real-world problems using technology.

- **Frontend web development**
  Learn the best practices of converting data to a graphical interface, through the use of HTML, CSS, and JavaScript.

- **Advanced Frontend with React.js**
  Learn the best practices of converting data to a graphical interface, through the use of HTML, CSS, and JavaScript. Build amazing user interfaces or UI components using React library

Placement after the course

Konathala Mouli
AtoS

Kushagra Gupta
genpact

Shivani Jadon
bluepi

Saumitra Mishra
Zemoso

Vartika Shakya
OLA

Tanya Prakash
Goldman Sachs

Course Offerings

Basic	Standard	Pro	Premium
x	Introduction to Programming	x	Introduction to Programming
x	Data structures and algorithms	x	Data structures and algorithms
Front-End Web Development	Front-End Web Development	Front-End Web Development	Front-End Web Development
Advanced frontend with React.js	Advanced frontend with React.js	Advanced frontend with React.js	Advanced frontend with React.js
x	x	Premium Hirist Account	Premium Hirist Account
NASSCOM Certificate	NASSCOM Certificate	NASSCOM Certificate	NASSCOM Certificate
Dedicated Placement Cell with curated job openings	Dedicated Placement Cell with curated job openings	Dedicated Placement Cell with curated job openings	Dedicated Placement Cell with curated job openings
x	x	Mock interview/Industry mentor guidance sessions (10)	Mock interview/Industry mentor guidance sessions (10)
x	x	Workshops for building your resume and	Workshops for building your resume and
x	x	Curated interview problems (100)	Curated interview problems (100)
x	x	DSA based product companies Mock Test Series	DSA based product companies Mock Test Series
x	x	2 months Free Course Extension	2 months Free Course Extension

Basic	Standard	Pro	Premium
5 Months / 50+ Hours / 8+ Projects / 50+ Assignments	11+ Months / 110+ Hours / 8+ Projects / 90+ Assignments / 300+ Problems	7+ Months / 50+ Hours / 8+ Projects / 50+ Assignments / 400+ Problems	13+ Months / 110+ Hours / 8+ Projects / 90+ Assignments / 400+ Problems

Detailed Curriculum

Introduction to Programming

Topics	Sub-topics	Details
Basics of Programming	Flowcharts	Introduction to flowcharts, Decision making using flowcharts, Loops, Example problems
	Variables and Data types	First program, Variables and data types, Taking input, How data is stored in memory, Arithmetic Operators
	Conditional statements	Introduction to If else, Relational and logical operators, Nested conditionals
Loops and Functions	While loops	While loops, Flow of execution of statements in while loop, Example problems using while loop
	Patterns	Introduction to patterns, Basic Patterns, Square Patterns, Triangular Patterns, Character Patterns, Reverse Triangle, Inverted patterns, Isosceles triangles
	For loops	For loops, Break and Continue, increment - decrement operators
	Functions	Introduction to functions, Working of function calling, Variables and its scope, Pass by value
Arrays	Introduction to arrays	Introduction to arrays, How arrays are stored in memory, Passing arrays to functions
	Searching and Sorting	Understanding Binary Search, Selection sort, Bubble sort, Insertion sort, Merging two sorted arrays
Strings and 2D Arrays	Strings	Introduction to strings, storage of strings and their inbuilt functions
	2D Arrays	2D arrays, Storage of 2D arrays, Example problems using 2D Arrays

Introduction to Data Structures

Topics	Sub-topics	Details
Problem Solving Techniques	Recursion	Introduction to recursion, Principle of mathematical induction, Fibonacci numbers, Recursion using arrays, Recursion using strings, Recursion using 2D arrays
	Time and space complexity	Order complexity analysis, Theoretical complexity analysis, Time complexity analysis of searching and recursive algorithms, Theoretical space complexity, Space complexity analysis of merge sort
Object-oriented programming	Basics of OOP	Introduction to oops, Creating objects, Getters, and setters, Constructors and related concepts, Inbuilt constructor and destructor, Example classes
	Advance concepts of OOP	Static members, Function overloading and related concepts, Abstraction, Encapsulation, Inheritance, Polymorphism, Virtual functions, Abstract classes, Exception handling
Linear Data Structures	Linked lists	Introduction to linked list, Inserting node in linked list, Deleting node from linked list, Midpoint of linked list, Merge two sorted linked lists, merge sort of a linked list, Reversing a linked list
	Stacks and Queues	Introduction to stacks, Stack using arrays, Dynamic Stack class, Stack using linked list, Inbuilt stack, Queue using arrays, Dynamic queue class, Queue using linked list, Inbuilt queue
Trees	Generic Trees	Introduction to Trees, Making a tree node class, Taking a tree as input and printing, Tree traversals, Destructor for tree node class
	Binary Trees	Introduction to Binary Trees, Taking a binary tree as input and printing, Binary Tree traversals, Diameter of binary tree
	Binary Search Trees	Introduction to Binary Search Trees, Searching a node in BST, BST class, Inserting and Deleting nodes in BST, Types of balanced BSTs
Advanced Data Structures	Priority Queues	Introduction to Priority Queues, Ways to implement priority queues, Introduction to heaps, Introduction to Complete Binary Trees and its implementation, Insert and Delete operations in heaps, Implementing priority queues, Heap sort, Inbuilt Priority Queue

Topics	Sub-topics	Details
	Hashmaps	Introduction to Hashmaps, Inbuilt Hashmap, Hash functions, Collision handling, Insert and Delete operation implementation in hashmap, Load factor, Rehashing
	Tries	Introduction to Tries, Making a Trie Node class, Insert, Search and Remove operation implementation in Tries, Types of Tries, Huffman Coding
	Graphs	Introduction to Graphs, Graph Terminology, Graph implementation, Graph Traversals (DFS and BFS), Weighted and Directed Graphs, Minimum Spanning Trees, Cycle Detection in Graphs, Kruskal's algorithm, Prim's Algorithm, Dijkstra's algorithm
Dynamic Programming	Introduction to Dynamic Programming	Introduction to Memoization, Introduction to Dynamic Programming, Fibonacci numbers using recursion, memoization and dynamic programming
	Applications of Dynamic	Longest Common Subsequence (LCS) using recursion, memoization and dynamic programming, Edit distance using recursion, memoization and dynamic programming, Knapsack problem using recursion, memoization and dynamic programming

Frontend Module

Topics	Sub-topics	Details
Getting started with Basics	History of Web	Understanding how and who built the web
	Client server architecture	General architecture used by websites
	What happens when you visit a	Learning what happens behind the scenes while opening a website
Introduction to HTML	HTML structure	How to create the structure of a web page
	Tags in HTML	Learning about various tags in HTML like <a>, etc
More on HTML	More tags	Practice creating HTML with more tags
	Block v/s Inline elements	Understand the difference between inline and block HTML elements
	Table	Learn to create tables in HTML
Forms	Form	How to create the structure of a web page
	Form fields	What is an HTML form
Intro to CSS	CSS Introduction	What is CSS and how to use it in HTML
	Blog page	Building and styling the blog project

Topics	Sub-topics	Details
Styling with CSS	CSS units	Learning about various CSS units used to style HTML elements
	CSS box model	Understanding the CSS box model
Starting with Resume project	Starting the project	Start building the Resume project by creating the HTML structure
Flex	Intro to Flex	Introducing SASS, setting up SASS for our project
	Flex properties	Explaining 1:1, 1:M and M:M DB relations
	Using flex in Resume	Utilising flex to style the Resume project
Responsive designs	Media queries	Learning storage in SQL databases
Completing Resume	Pseudo elements	What are pseudo elements and where to use them
	Finishing up	Finish building the Resume project
Animations and 3D space	Animation properties	Basics of CSS animation and how to animate HTML elements using animate.css
	Frontend frameworks	What are frontend frameworks and how to use one
Bootstrap	Grid system	Learning about grid system of bootstrap
	Bootstrap components	Using various other bootstrap elements like Navbar, Jumbotron etc
Major Project	Assignment	Build a music player project with your newly gained skill set

Topics	Sub-topics	Details
Starting with Javascript	Intro to JS	What is JS and history of JS
	Variables, operators, loops	Learning the basics of the language
Javascript : functions and Arrays	Scope	Understanding scope in JS
	Hoisting	What is hoisting and its application
	Functions expressions v/s Function declaration	Difference between function expression and declaration
	Arrays and its usage	What are arrays and using array functions like splice, slice etc.
Objects and Timing Events	Intro to Objects	What are objects, how to create them and using different notations to access object's data
	Object functions	Learn to iterate over objects, delete object properties, creating nested objects
Understanding DOM	DOM	Understanding DOM, what it is, how to access elements from the DOM
	Events	How to manipulate DOM events in JS
Calculator Project	Assignment	Creating a mini calculator with basic functionality
Mini Projects Using Javascript	let v/s var	Learning different ways to create variable
	Catch me if you can	Build a game using vanilla Javascript

Topics	Sub-topics	Details
Closures	Revision	Revising some old concepts like Scope, window object etc
	IIFE	What are immediately invoked function expressions
	Closures	What are closures and its application
	Arrow functions	Learning about arrow functions and bindings in arrow functions
Constructors and Prototypes	"this" keyword	How does the "this" keyword works in JS
	Prototypes	Discussing what are prototypes in JS, why do we use them and its application
	Class	Learning about using classes in JS and how to deal with class inheritance in JS
Project: Ping Pong Game	Assignment	Building the famous ping pong game with Javascript
jQuery	Intro to jQuery	What is jQuery and what is the need for it
	Event handling in jQuery	Handling various JS events with jQuery and exploring the library
Ajax	Intro to AJAX	What are async requests, what is API and JSON
	Ajax requests with jQuery	Making ajax requests with jQuery and handling errors
Promises	Intro to promises	What is a promise, how do we use promises and chaining promises

Topics	Sub-topics	Details
Git	Intro to Git	What is git and why it's helpful
	Branches	Exploring branches in Git. How to create branches.
	Git workflow	Understanding push, commits, pull requests and using git for teams and individual

React Module

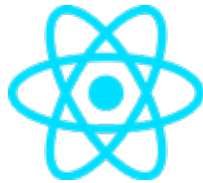| Topics	Sub-topics	Details
Intro to React	SPAs v/s MPAs	Difference between Single page apps and Multi page apps
	React philosophy	What is React's philosophy?
	React v/s others	Why React stands out from other JS libraries and frameworks.
Hello World	Using React	Ways to start using React in a project
	Babel	Using babel and understanding how it works with React
	Conditional rendering	Rendering different components based on different conditions

Topics	Sub-topics	Details
Mini Project: Starting the project	Introduction to the project	Introduction to Cart and its working
	Adding CSS	Styling the cart using CSS
	Using state	Adding state to Cart
Mini Project: Finishing up	Rendering lists	How to render list of items
	Props	What are props and how do we work with them
	Delete, adding Navbar, total products count	Building more functionalities of cart
Firebase: Mini project extended I	Introduction to Firebase	Understanding what is firebase and how it actually works
	Component lifecycle	Learning about lifecycle of a React component
	Firebase setup	Setting up firebase and adding it to the project
Firebase: Mini project extended II	CRUD with Firebase	Learning how to create, read, update and delete data from firebase
	Querying data	Querying data from firebase
Mini Project: Managing state	More on React state	React state in depth

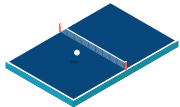| Topics	Sub-topics	Details
React & Redux	Content API	Passing Arguments to the component tree without passing props at every level.
	High Order Components	Adding additional functionalities to existing components.
	connect()	Wrapping the dispatch functions.
Major Project : Setup & Intro	Project setup	Installing packages like redux , react-redux , redux - thunk , redux - logger.
	Fetching Post	Fetching post from API & adding it to the store.
	Adding Navbar	Adding navigation menu.
Major Project : Routing and Auth.	Routing	Showing different components to the user based.
	Authentication	Using jwt Tokens for authentication & information exchange
Major Project: User profile	Settings page, editing a user, add user as a friend	Building various functionalities of the social media app
Major Project: Search and Chat	Searching users	Adding functionality to search users
	Building the chat box	Creating the chat using sockets
React Hooks	Use Effect, use State and other	What are hooks, why do we use them and various React hooks out there

Tools and Techniques

webpack | BABEL |

Projects

Static Blog
Build the UI of a basic blog using HTML

Ping Pong Game
Build a vintage game, ping pong, using vanilla Javascript

Shopping Cart
Build the basic functionality of a shopping cart as you see in Amazon and Flipkart

Movies App
Search any movie and score of your favorite

Mini Calculator
Build a calculator web app with Javascript as the core and style it with CSS

Music Player
Build and style a music player like Spotify/Youtube Music using HTML and CSS

iPod
Build a clone of iPod nano 5th gen

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