

# Introduction to React Native

Nature of the course: Theory + Practical

Total hours per day: 2 hours

Course duration: 4 weeks

## Course Summary

React Native is a JavaScript framework for building native mobile apps. It uses the React framework and offers a large amount of inbuilt components and APIs. This course is designed for JavaScript and React developers who aspire to learn mobile building skills. By following this course, you will expand your React and JavaScript knowledge, learn some concepts of functional programming, and prepare to enter the mobile world. Since the JavaScript world is moving forward, we will keep up with it and use EC6 syntax in this course.

## Completion Criteria

After fulfilling all of the following criteria, the student will be deemed to have finished the Module:

1. Has attended 90% of all classes held
2. Has received an average grade of 80% on all assignments
3. Has received an average of 60% in assessments
4. The tutor believes the student has grasped all of the concepts and is ready to go on to the second module.

## Required Text Books

1. Hands-On Design Patterns with React Native: Proven techniques and patterns for efficient native mobile development with JavaScript
2. React Native Cookbook - Second Edition
3. React Native for Mobile Development

## Prerequisites

- Basic knowledge about programming, bits/bytes, procedures, classes, computer architecture, etc. If you just have a theoretical knowledge that is perfectly okay but you should have strong convictions on what programming is, and what you hope to achieve from this class.
- Willing and eager to spend at least 10-20 hours (varying from student-to-student) per week outside of the training class to self-study and practice.
- If you are only interested in theory and have no interest/patience in spending at least 10 hours every week throughout the duration of the course, then this course might not be for you.
- If you have absolutely no idea about programming or do not see yourself doing programming in the next six -odd months, then this class may not be for you!

## Course Details

### WEEK 1

#### **Getting Started**

- Welcome
- What is React Native?
- How React Native Works?
- Expo Vs React Native CLI
- Creating first React Native app
- Overview on first app structure
- React Native alternatives
- Running app on an Android Emulator

### **Basic Concepts (React and React Native)**

- State and Event
- Props
- React Hooks
- Container components and UI components
- Styling

### **Exploring React Native Core Components**

- Button
- Positioning Element with flex.
- Layout and Flexbox
- Scroll View
- List View
- Flat List
- Sectionalist
- Touchable
- Text Input
- Activity Indicator
- Picker
- Status Bar
- Switch
- Web View

## **WEEK 2**

### **Debugging React Native Apps**

- What to debug and what to debug?
- Handling Error messages
- Using the breakpoints
- Using React Native debugger

## **Responsive and Adaptive UI**

- Working with more flexible styling rules
- Orientation of device
- Using dimensions checks
- Platform API
- SafeAreaView

## **Handling User Input**

- TextInput
- Basic Validation
- Connecting Input Components and Forms
- Tweaking styles and handling soft keyboard

## **WEEK 3**

### **Navigation with React Navigation**

- Installing react navigation and adding navigation to app
- Stack Navigator
- Navigation between screens
- Header and Navigation options
- Default Navigation options and config
- Passing data between screens
- Tab Navigation
- Drawer Navigation
- Bottom Tab Navigation

### **State Management & Redux**

- Introduction to State and Redux
- Redux Flow
- Redux and Store Setup
- Actions and Reducers concept

### **Storage**

- AsyncStorage
- AsyncStorage Methods

## **WEEK 4**

### **HTTP request**

- Getting/Sending data from the remote server
- Redux Thunk
- Simple Implementation

### **Native Device Features**

- Accessing Device Camera
- Maps
- Location
- Image Picking
- Implementation by making real application

### **LABS**

Lab assignments will focus on the practice and mastery of contents covered in the lectures; and introduce critical and fundamental problem-solving techniques to the students.

### **Learning Outcomes**

- how to develop ES6 JavaScript code that is well-structured
- how to use components to develop React applications
- how to combine components using properties and states
- how to integrate mobile interfaces such as input, touch, scroll, and list
- how to use the React Native CLI development tools
- how to port a React Native application to the iOS platform