

**CENTER FOR TECHNICAL EDUCATION**  
**First Semester, 2018-2019**  
**Course Handout**

**Course Title:** Introduction to Node.js and React

**Instructor-in-charge:** ARYAN AGARWAL

**Course Description:** A comprehensive course aimed to teach website design and development to beginners.

Students will learn to code in HTML, CSS and Javascript. The course will also include lectures on using GIT version control system. During the course students will gain intermediate level proficiency for developing React web apps. This course also includes lectures on introduction to React Native. They will be designing 1 website and 1 web application of their own during this course. After taking the course students will have hands on experience of integrating front-end and back-end elements. Students will also be familiarised with industry standards of saving and retrieving data from servers using MongoDB database.

**Prerequisites:** None

**Scope & Objective:** It aims to impart in-depth knowledge of various aspects of Web development among the students. The course also aims to bridge the gap between the theoretical concepts and their practical applications in the web development industry.

**Course Plan:**

Week	Topic	Learning Objectives and Projects	Material
1	Introduction	Basics of computer programming, Introduction to HTML, CSS and GIT version control system	Lec/PDF
2	Javascript and Server configuration	Introduction to Javascript, Unleashing the power of Javascript,	Lec/PDF
3	Javascript Intermediate	Intermediate Javascript configurations, Introduction to javascript libraries	Lec/PDF
4	Publishing Website	Good Practices to follow, Project 1 - Make a Web Portfolio	Lec/PDF
5	Introduction to Node.js	Building first application in Node.js using Express framework	Lec/PDF

6	Node.js elements and DOM	Introduction to Node.js and DOM. Homework Assignment for documentation reading.	Lec/PDF
7	Database Management	Using MongoDB, saving and retrieving data from database using Node.js	Lec/PDF
8	Introduction to React	Building first application using React framework. Advantages of using React.	Lec/PDF
9	Intermediate React DOM	Industry standard practices for using React. Introduction to Material UI. Introductory concepts for using Redux.	Lec/PDF
10	Project 2	Expense tracking system	Lec/PDF
11	Introduction to React Native	Only beginners level concept on React Native. Uses, applications and advantages of React Native. Introduction to Expo.js	Lec/PDF

#### 6. Evaluation Scheme:

Component	Weightage	Tentative date	Remarks
Project 1 - Build web portfolio	20%	Week 4	OB
Quiz 1	20%	Week 7	CB, MCQ
Quiz 2	20%	Week 9	CB, MCQ
Project 2 - Expense tracking system	40%	Week 10	OB

#### Consultation Hours:

To Be Announced in the class

**Aryan Agarwal**  
**Instructor-in-charge**  
**2016A1PS0705G**