**Lab Setup:**

* Node.js – Latest LTS Version (<https://nodejs.org/en/>)
* Visual Studio Code – Latest Version (<https://code.visualstudio.com/>)
* Internet Connection (Open Access to <https://www.npmjs.com/> and <https://github.com/>)
* NPM install privileges

**Course Outline:**

Introduction

* Modern Web Development Tooling
* What is React?
* What problem does React solve?
* What is Next.js?
* What problem does Next.js solve?
* Client and server-side rendering
* Why Is Server-side Rendering Important?

React + Next.js Projects

* Create a React/Next.js Project
* Create React/Next.js App Generator
* Generated Project File Structure
* Configuration Files
* Webpack, Babel, etc...
* Hot Reloading
* Understanding JSX Syntax

Next.js Pages

* What is a Page Component?
* Routing and Page Components
* Linking Between Pages
* What is a Subcomponent?
* Reusing Component Logic Across Pages

CSS

* How to add CSS?
* Style and Class Name Props
* CSS Modules
* CSS in JS
* What is a Layout Component?
* Layout Components and CSS
  + Applying CSS

Server-Side Rendering

* Benefits of Server-Side Rendering
* Hosting Requirements
* Loading Data
* Dynamic Imports

Working with Data

* Fetching Data the Next.js way
* Using the Fetch (or Axios) API
* Fetching Data and Server-Side Rendering
* Fetching Data from a REST API
* Using the SWR Hook for Fetching Data

Routing

* Index Route
* Nested Routes
* Dynamic Route Segments
* Accessing the Router
* Routing Imperatively
* Shallow Routing

Authentication Overview

* Authentication Patterns
* Authenticating Static Pages
* Authenticating Server-Rendered Pages