

# Course Curriculum : Front End Development

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## Html/Html5

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- Introduction of different Web Technology
- Introduction
- HTML Elements
- HTML Attributes
- HTML Headings
- HTML Paragraphs
- HTML Formatting
- HTML Fonts
- HTML Styles
- HTML Links
- HTML Images
- HTML Tables
- HTML Lists
- HTML Forms
- HTML Iframe
- HTML Layout
- HTML Doctypes
- HTML Head
- HTML Meta
- HTML Scripts
- HTML Media
- HTML Audio
- HTML Object
- HTML Video
- HTML YouTube
- HTML Media Tags

### Structure of a Web Page

- HTML5 DOCTYPE
- Page Encoding
- HTML5 Mark-up
  - New And Updated Elements
  - Structural Elements
  - New Attributes
  - Deprecated Elements And Attributes

### Forms

- What Are The Needs For Web Applications?
- Current Solutions
- New Input Types
- New Attributes
- Form Validation

### Audio and Video

- The State of Web Audio And Video Based On Plug-in
- The State Of Audio And Video Codec (e.g. H.264, WebM, etc.)
  - Video/Audio Codec And Browser Support
- New Audio/Video Mark-up
- Attributes And Methods
- Understanding Audio/Video Events
- Customizing Audio/Video Controls

### HTML5 Canvas

- Overview Of Graphics In The Browser
  - Canvas Vs. SVG
  - Accessibility
- Using A Canvas
- Context And Coordinates
- Drawing Shapes
- Working With Paths
  - Drawing Straight Lines
  - Drawing Circles Or Arcs
- Drawing Text
- Drawing Images

- Working With Pixels
- Understanding Transforms
  - Translation
  - Rotation
  - Scaling



## CSS/CSS3

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- CSS Introduction
- CSS Syntax
- CSS Id & Class
- CSS Styling
- Styling Backgrounds
- Styling Text
- Styling Fonts
- Styling Links
- Styling Lists
- Styling Tables
- CSS Box Model
- CSS Border
- CSS Outline
- CSS Margin
- CSS Padding
- CSS Display
- CSS Positioning
- CSS Floating
- CSS Align
- CSS Navigation Bar
- CSS Image Opacity
- CSS Media Types

## CSS3

- Selectors and Pseudo Classes
  - Attribute Selectors
  - The Target Pseudo-Class
  - UI Element States Pseudo-Classes
  - Negation Pseudo-Class
  - Structural Pseudo-Classes
- Fonts and Text Effects
  - Fonts on the Web
  - Font Services
  - The @font-face Rule
  - Text Shadow
  - Word Wrapping
- Colors, Gradients, Background Images, and Masks
  - Color
  - The Opacity Property
  - Backgrounds
  - background-origin, and background-size
- Borders and Box Effects
  - Image Borders
  - Rounded Corners
  - Box Shadow
- Transitions, Transforms, and Animations
  - Transitions and Transforms
  - Transitions
- Layout: Columns and Flexible Box
  - Layout: Columns and Flexible Box
  - Flexible Box Model
- Embedding Media
  - Video Formats
  - Styling Video
- Media Queries
  - Targeting Widths and Devices with CSS3 Media Queries
  - Responsive Images and the viewport Meta

## □ JavaScript

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## JavaScript Fundamentals

- variables
- Data types
- Type Conversions
- Operators
- Conditional operators: if, '?'
- Logical operators
- Loops: while and for
- The "switch" statement
- Functions
- Arrow functions, the basics
- JavaScript specials

## Data types

- Strings
- Arrays
- Array methods
- Iterables
- Map and Set
- Object.keys, values, entries
- Destructuring assignment
- Date and time
- JSON methods, toJSON

## classes

- Class basic syntax
- Class inheritance
- Static properties and methods
- Private and protected properties and methods
- Extending built-in classes

## Error handling

- Error handling, "try...catch"
- Custom errors, extending Error

## Promises, async/await

- Introduction: callbacks
- Promise
- Promises chaining
- Error handling with promises
- Promise API
- Promisification
- Async/await

## Generators, advanced iteration

- Generators
- Async iterators and generators

## Modules

- Modules, introduction
- Export and Import
- Dynamic imports

## Browser: Document, Events, Interfaces

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### Document

- Browser environment, specs
- DOM tree
- Walking the DOM
- Searching: getElement\*, querySelector\*
- Node properties: type, tag and contents
- Attributes and properties
- Modifying the document
- Styles and classes
- Coordinates

### Events

- Introduction to browser events

- Bubbling and capturing
- Event delegation
- Browser default actions
- Dispatching custom events

## UI Events

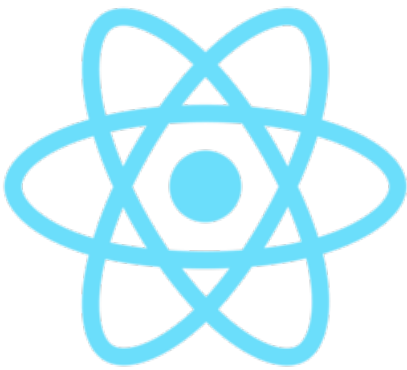
- Mouse events basics
- Moving the mouse: mouseover/out, mouseenter/leave
- Drag'n'Drop with mouse events
- Keyboard: keydown and keyup
- Scrolling

## Forms, controls

- Form properties and methods
- Focusing: focus/blur
- Events: change, input, cut, copy, paste
- Forms: event and method submit

## Document and resource loading

- Page: DOMContentLoaded, load, beforeunload, unload
- Scripts: async, defer
- Resource loading: onload and onerror



ReactJS

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## Module 1

### why React

- Introduction
- Installing and setting
- Intro to JSX
  - Why use Capital component name
  - diff b/w HTML and JSX
- components
  - What is component
    - types of components
    - class components
    - with es6 with and without super without es6 bind method
    - functional components
  - reusable components:
    - why we need

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## Module 2

### State Management

- what is state
- 2. State Object
- setState()
  - state with class components
  - state with functional components (with Hooks)

- Props
  - passing data from parent to child
  - passing data from child to parents
  - propTypes for type check and debug
- Controlled components

## Module 3

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### React Lifecycle

- componentWillMount
- componentDidMount
- componentWillUpdate

### Using External API

- Axios and Fetch API
  - use of GET, POST, PATCH, PUT, DELETE
  - Async/Await with Axios and promise
  - Using Promise.all to resolve the above API data

## Module 4

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### React-Router

- Introduction
- Link and its exact attributes
- Nav-Link and its 'isActive' class
- Browser Router
- Router
  - Render
  - component
- Switch
- Setting 404 page
- Dynamic Routes
- using History and Location and Params

## Module 5

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### Redux

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- Redux Method
  - createStore()
  - action
  - Dispatch()
  - Subscribe()
- Redux Advance
  - Reducer
  - combineReducers
  - Redux middleware
    - Thunk middleware

- Fetching data in Redux through API
- React-Redux
  - Installation
  - Using provider
  - connect()
- Project
  - Individual project
    - Healthcare
      - Tvastra
      - Northern health
  - Team project
    - Social Media
      - Coub
      - Krazily
    - Blogging
      - Medium
    - E-commerce
      - Ozon
      - shop.