Introduction to Angular with Scripting Language

Java Script

Nature of the course: Theory + Practical

Total hours per day: 2 hours

Course duration: 2 and a half weeks

Course Summary

The Java Script course at the Deerwalk Training Center (DTC) is designed for novices who wish to learn how to think about and produce meaningful Java Script code, as well as read Java Script code written by others. The course also teaches how to translate a literary description of a problem (requirement) into a Java Script application or library.

This is a foundational course for anyone with no prior programming expertise who wants to work as a professional Java Script engineer in the future.

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. JavaScript: The Definitive Guide, 5th edition
2. Introduction to Programming Using Java by David J. Eck
3. JAVA the complete reference by Herbert Schildt

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 read/write codes in JavaScript (self-study and practice).
- There is no prior educational level requirement for this course. Anyone from 10+2 student to someone who is doing her PHD in Genetic Engineering is welcome to take this course.
- 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!

WEEK 1

UNDERSTANDING JAVASCRIPT
- Introduction
- History of JavaScript
- Tools for JavaScript Development
- Introduction to Web Console
- Adding JavaScript to HTML

WORKING WITH DATA
- Variable
- Data types
- Arithmetic operators and math
- Strings and Numbers
- Conditional statement and logic
- Arrays
- Properties and methods in Arrays
- Loops
- Looping through Arrays
- Break and continue loops

WEEK 2

FUNTIONS AND OBJECTS
- Functions in JavaScript
- Argument and return values
- Variable scope
- lets and const
- Objects
- Object constructors
- Closures

JAVASCRIPT DOM ELEMENTS
- DOM: Document Object Model
- Query Selectors
- Access and change elements, classes, and attributes
- Add DOM elements
- Apply CSS to elements

- [Class Project: Create an Analog Clock]

JAVASCRIPT DOM EVENTS

- What are DOM events?
- Typical DOM events
- Trigger functions with event handlers
- Add and use event listeners
- Pass argument via event listeners

- **[**Class Project: Typing Speed Tester**]**
- **[**Class Project: Automated Responsive Images Markup**]**

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 use Java to develop object-oriented designs.
- How to recognize Java language components and how they interact in applications.
- How to create stand-alone Java programs and program them.
- Will have a better understanding of how to employ exception handling in Java applications.
- Will become familiar with Java generics and the Java Collections API.
- How to create Java apps using threads and how to read and write files in Java.

JQuery

Nature of the course: Theory + Practical

Total hours per day: 2 hours

Course duration: 2 weeks

Course Summary

The JQuery course at the Deerwalk Training Center (DTC) is designed for novices who wish to learn how to think about and produce meaningful JQuery code, as well as read JQuery codes written by others. The course also teaches how to translate a literary description of a problem (requirement) into a JQuery application or library.

This is a foundational course for anyone with no prior programming expertise who wants to work as a professional Java Script engineer in the future.

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. JavaScript and JQuery: Interactive Front-End Web Development
2. jQuery in Action
3. Learning jQuery

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 read/write codes in JQuery (self-study and practice).
- There is no prior educational level requirement for this course. Anyone from 10+2 student to someone who is doing her PHD in Genetic Engineering is welcome to take this course.
- 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!

WEEK 1

QUICK INTRODUCTION

- What is jQuery?
- Setting up the environment
- First jQuery enabled page
- Selectors and filters
- Creating and modifying page content
- Handling events
- Animation page content

WORKING WITH PAGE CONTENT

- Basic and advanced selectors
- Basic, attribute, and advanced filters
- Traversing documents with JQuery
- JQuery Statement Chaining
- [Class Project: Scripting challenge]

WEEK 2

MANIPULATING PAGE CONTENT

- Creating page content
- Inserting, altering and manipulating page content
- Manipulating attributes
- Working with CSS
- Embedding custom data
- [Class Project: Scripting challenge]

JQuery EVENTS

- jQuery event handling features
- Binding and unbinding events
- Event helper features
- Using jQuery event object
- [Class Project: Scripting challenge]

ANIMATION AND EFFECTS

- Introduction to jQuery animations
- Hiding and showing elements
- Fading elements
- Sliding elements
- Custom animations
- [Class Project]

Learning Outcomes

- Learn how to install and configure jQuery on a web page.
- The fundamentals of jQuery's 'dot' syntax
- What are jQuery selectors and how do they work?
- How to reference and change the content of a web page
- Using XHTML forms to implement validation
- Using the jQuery User Interface Plugin
- Putting together a simple image slideshow
- Updating a website project from the ground up

Ajax

Nature of the course: Theory + Practical

Total hours per day: 2 hours

Course duration: 1 and a half weeks

Course Summary

The Ajax course at the Deerwalk Training Center (DTC) is designed for novices who wish to learn how to think about and produce meaningful Ajax codes, as well as read Ajax codes written by others. The course also teaches how to translate a literary description of a problem (requirement) into a Ajax application or library.

This is a foundational course for anyone with no prior programming expertise who wants to work as a professional Java Script engineer in the future.

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. Ajax: The Complete Reference
2. ASP.NET AJAX Programmer's Reference

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 read/write codes in Ajax (self-study and practice).
- There is no prior educational level requirement for this course. Anyone from 10+2 student to someone who is doing her PHD in Genetic Engineering is welcome to take this course.
- 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
- What is AJAX?
- Using a synchronous XHR request

- Making request asynchronous
- Scripting for backwards compatibility

MODIYING THE DOM
- Update the DOM with get Element By Id
- Modifying elements with get Elements By Tag Name
- Parsing XML using AJAX
- Reading JSON files
- Using event-driven AJAX

JQuery AJAX
- Understand jQuery AJAX methods
- Create and AJAX request in jQuery
- Work with the date returned from a jQuery AJAX request
- Reading data with jQuery

WEEK 2

AJAX IN ACTION
- Preparing a live search AJAX app
- Sending JSON data to the page
- Searching JSON data
- Styling an application
- Adding CSS3 animations

[Class Project: ZIP code lookup]

Learning Outcomes
- Learn how to install and configure Ajax on a web page.
- The fundamentals of Ajax
- How to reference and change the content of a web page
- Using the Ajax User Interface Plugin

Vue.js

Nature of the course: Theory + Practical

Total hours per day: 2 hours

Course duration: 2 weeks

Course Summary

The Vue.js course at the Deerwalk Training Center (DTC) is designed for novices who wish to learn how to think about and produce meaningful Vue.js codes, as well as read Vue.js codes written by others. The course also teaches how to translate a literary description of a problem (requirement) into a Vue.js application or library.

This is a foundational course for anyone with no prior programming expertise who wants to work as a professional Ajax engineer in the future.

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. Node.js complete reference
2. Node.js for .NET developers

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 read/write codes in Ajax (self-study and practice).
- There is no prior educational level requirement for this course.
- 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
INTRODUCTION
- Get to know Vue
- Vue Benefits
- What you should know

THE SIMPLEST FORM
- Adding Vue to a web page
- Understand execution flow
- A Bootstrap detour
- Thinking declaratively with data binding
- Understanding two-way data binding
- Methods and event handling

ESSENTIAL DIRECTIVES, OPTIONS, AND TOOLS
- Rendering elements conditionally
- Loading data asynchronously
- Using the created lifecycle hook
- Using the Vue Devtools browser extension
- Rendering list with v-for
- Using additional v-for parameters
- Combining v-for with event handling
- Using computed properties

WEEK 2
ENHANCING USER INTERFACES
- Adding dynamic style attributes
- Adding dynamic class attributes
- Using CSS transitions
- Applying transitions to lists
- Using CSS animations

VUE COMPONENETS
- Using Vue components
- Registering and using components
- Adding component props
- Managing component content with slots
- Componentizing existing in-DOM templates
- Handling events in component
- Vue CLI
- installing Vue CLI
- Vue CLI project template
- Moving to single-file components
- Building for production

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 use Vue.js to develop object-oriented designs.
- How to recognize JavaScript language components and how they interact in applications.
- How to create stand-alone Vue.js programs and program them.

Angular

Nature of the course: Theory + Practical

Total hours per day: 2 hours

Course duration: 3 weeks

Course Summary

The Angular course at the Deerwalk Training Center (DTC) is designed for novices who wish to learn how to think about and produce meaningful Angular, as well as read Java Script codes written by others. The course also teaches how to translate a literary description of a problem (requirement) into a Java Script application or library.
This is a foundational course for anyone with no prior programming expertise who wants to work as a professional Angular engineer in the future.

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. Node.js complete reference
2. Node.js for .NET developers

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 read/write codes in Angular (self-study and practice).
- There is no prior educational level requirement for this course.

Course Details

WEEK 1

INTRODUCTION TO ANGULAR
- Introduction
- Component Based Model
- Setting Up
- Creating and running a project

COMPONENTS
- Introducing the app component
- Creating your first component
- Anatomy of a component
- Binding data from component class
- Data binding and async
- Template Interpolation

WEEK 2
TEMPLATES AND DATA BINDING
- Looping with ngFor
- Using ngIf
- Passing inputs to components
- Using ngOnInit Lifecycle hook
- Passing member variables to components
- Styling Angular components
- Handling click events
- Two-way data binding with ngModel

SERVICES
- Creating and using multiple modules
- Creating a service
- Understanding dependency injection
- Service Injection Context
- Making REST calls with HttpClient
- Extending the sample app
- Building an Angular Project

[Class Project: My GitHub Project Listing Web App]

WEEK 3
ROUTING
- Introduction to Routing
- Creating an angular project with routing
- Creating routes
- Route redirects and wildcards
- Configuring child routes
- Showing navigation for routes
- Wrap Up

[Class Project: CRUD Application using Angular and Firebase]

Learning Outcomes

- Create device-independent Angular applications
- Creating and validating Angular forms
- Adding routes to Angular applications
- Unit Testing Angular components