**Web Application Development**

**Self Study Saad Ahmed & Habeel Khan**

**Course Outline Prepared by Habeel Khan & Saad Ahmed**

**July 2014 to September 2014 (8 Weeks)**

**Course Objectives**

1. **Complete understanding of Client Side Front End Development**
2. **Complete understanding of Server Side Backend Development.**
3. **Combined utilization of various client and server side languages e.g Javascript, php etc.**
4. **Utilizing various frameworks like Bootstrap and Laravel to improve coding standards.**
5. **Be able to write large scale Web Applications using MVC Architecture.**

**Course Learning Methodology**

1. **Weekly Hands on Lab Tasks – They are quite complex and comprehensive as they are taken from Web Application courses of some of the best Universities e.g Stanford, MIT, University of Washington etc.**
2. **Weekly average of 2 Assignments which are far more complex then Lab Tasks and require deep understanding of the topic to be able to perform. These are also taken from top Universities.**
3. **Watching Reference Videos and Reading Material to further enhance understanding of difficult concepts/topics.**
4. **Labs are required to be completed each week – If labs are not completed due to certain reasons, then week is extended because it is very important to have hands on practice.**
5. **Assignments on the other hand are self-paced but we usually do the assignments along with the labs so that we can understand a particular topic comprehensively.**

**Week 1) We Learn HTML CSS and Javascript. C:\Program Files (x86)\Microsoft Office\MEDIA\OFFICE14\Bullets\BD21301_.gif**

**Do all Week 1 Labs**

1. **Basic HTML Structure**
2. **Tables Implementation**
3. **Lists/Links Tags**
4. **Complete Understanding of HTML Markup**
5. **Basic CSS Structure**
6. **Inline CSS**
7. **External CSS**
8. **Absolute and Relative Positioning**
9. **Floats**

**Week 2) Javascript C:\Program Files (x86)\Microsoft Office\MEDIA\OFFICE14\Bullets\BD21301_.gif**

**Do All Week 2 Labs**

1. **Javascript Syntax**
2. **Manipulating DOM using Javascript**
3. **OOP in Javascript**
4. **Iterating HTML structures such as tables using Javascript**

**Week 3) PHP C:\Program Files (x86)\Microsoft Office\MEDIA\OFFICE14\Bullets\BD21301_.gif**

**Do all Week 3 Labs**

1. **Basic PHP Syntax (Variables, Arrays, Functions, etc..)**
2. **Server Side Interface with Client Side Code**
3. **Passing Data from HTML TO PHP using POST and GET**
4. **Loading Data from Database using mysqli API.**
5. **OOP based mysqli and Prepared Statements**
6. **Parameter and Result Binding with mysqli**
7. **Creating Get/POST Request using cURL API**
8. **Session and Cookies**
9. **Redirection using PHP**
10. **Separation of Code for better quality (Unified Header, Footer files etc..)**

**Week4) AJAX AND jQuery C:\Program Files (x86)\Microsoft Office\MEDIA\OFFICE14\Bullets\BD21301_.gif**

**Do All Week 4 Labs!**

1. **Basic jQuery Syntax**
2. **Why we need jQuery**
3. **jQuery Selectors/Traverals/DOM Modification**
4. **Ways to include jQuery**
5. **Passing Functions to jQuery**
6. **Event Handling with jQuery**
7. **Effects with jQuery**
8. **AJAX**
9. **How to implement AJAX to get data from backend (e.g mysql database).**
10. **Complete understanding of AJAX to be able to build real time functionality in your application**
11. **Interacting with API’s using AJAX**

**Week 5) Bootstrap**

**Do all Week 5 Labs**

1. **Understand What is Responsive Web Design**
2. **Why we need to use Bootstrap**
3. **How bootstrap increases productivity.**
4. **Complete understanding of bootstrap various widgets, tools etc.**

**Week 6) Conversion from PSD TO HTML and PSD TO Wordpress**

1. **Conversion from PSD TO HTML**
2. **Conversion from PSD TO HTML and utilizing Bootstrap Framework**
3. **Conversion from PSD TO Wordpress.**

**Do All Week 6 Labs**

**Week 7) OOP and Design Patterns in PHP with focus on MVC using Laravel**

1. **OOP IN PHP**
2. **Common Design Patterns in PHP**
3. **Introduction to Laravel (Basic)**

**Do All Week 7 Labs**

**Week 8) Final project (Laravel Based) )**

**TBA..**

**Do All Week 8 Labs**

**WAD Phase 1 Complete**