**Web Design and User Experience Engineering**

**INFO 6150, Spring 2018**

**Instructor: Vishal Chawla**

**Office Hour: After Class, or By Appointment**

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**Phone: (339) 293-2010**

**Class Time and Location: Shillman 105 on Saturdays at 1 PM**

**Recommended Text:** *(Some reading materials will be provided via pdf files)*

1. Front-End Web Development: The Big Nerd Ranch Guide, Aquino & Gandee, ISBN-10: 0134433947 | ISBN-13: 9780134433943
2. Web Development and Design Foundations with HTML5, 8/E ISBN-13: 9780134322759
3. Fundamentals of Web Development By Randy Connolly, Ricardo Hoar ISBN-10: 0133407152 • ISBN-13: 9780133407150
4. AngularJS, JavaScript, and jQuery All in One Brad Dayley, Brendan DayleyISBN-10 0672337428 • ISBN-13: 9780672337420
5. Teach Yourself HTML, CSS and JavaScript All in One, Second Edition, ISBN-13: 978-0-672-33714-7

6. Computer Security: Principles and Practice, 3/E, William Stallings and Lawrie Brown

ISBN-10: 0133773922 • ISBN-13: 9780133773927

7. The Elements of User Experience, By Jesse James Garett

ISBN-10: 0321-68368-4

8. Basics of Web Design (HTML5 and CSS3), Terry Felke-Morris, ISBN 978-0-13-397074-6

9. Online tutorials on MEAN, Angular4 and Node JS

**Course Description:**

Introduces front end web design and principles concepts while working on web design projects. Course offers students opportunity to understand and develop web pages quickly that cater to customer and business needs. Students will have an opportunity to use and learn JavaScript skills including libraries like Bootstrap, JQuery, Node JS, Express JS and AngularJS while doing the labs and final project. Security techniques will be discussed that can help avoid code injections in websites. Course will also introduce user experience concepts and its relation to the front end web design. Prereq. CSYE 6200.

**Course Objectives:**

1. Understand the User Experience concepts and importance of making usable websites or products

2. Introduce front end web design concepts

3. Develop web pages quickly using HTML and JavaScript as per the business needs

4. Learn HTML and JavaScript concepts

5. Learn concepts of Bootstrap, JQuery, Angular JS, NodeJS, Express JS JavaScript library

6. Work on the Lab to do hands on practice of the concepts

7. Learn best practices and design patterns for the front end development

8. Apply the knowledge readily to the next assignment or job

**Prerequisite:**

This class assumes no prior experience in the Front end web design and development concepts. Basic web programming experience is helpful but is not required. Comfort with computers, desktop tools and general computing concepts are expected.

**Grading: Final**

**Assignments 30%**

**Midterm Exam 30%**

**Final Project and Presentation 35%**

**Creativity 5%**

**Academic Honesty:**

The Northeastern University academic integrity policy applies to your work in this course. All students

are expected to adhere to this policy. For more information on academic integrity policy, please visit

website: http://www.northeastern.edu/osccr/academicintegrity/index.html

***Facilitating academic dishonesty*** – Examples may include inaccurately listing someone as co-author of

Paper who did not contribute, sharing a take-home exam, or taking an exam or writing a paper for another

student.

**Attendance policy**

The Information Systems Department has a strict class attendance policy. Students who miss two or more

Classes will automatically receive one letter grade lower in their final grade. Students who miss three

Classes will receive an automatic F for the class. No exceptions are allowed for this rule

**Final Team Project:**

The final projects will be completed by a team of 4-5 students. The project details will be provided during the second/third week of the course. Students are encouraged to choose their topic of choice either from healthcare, business, and/or technology related fields. Details on project deliverable requirement will be specified at a later time.

**Course Schedule: (Subject to change)**

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| --- | --- | --- |
| **Week 1** |  | **Web Design using HTML5, CSS3**  (HTML Elements, Validation, Web Design Basics, Mobile Web Design, Principles and best practices, CSS Basics, BOX Model and Page Layout Basics)  Class Lab |
| **Week 2** |  | **Web Design using HTML5, CSS3**  (Element and Class Selectors, CSS page layout manipulation using float, Style a table, Form and controls, HTML5 text form controls, HTML 5 Audio and Video Source Elements, Media Queries, List and Menu creation)  Class Lab |
| **Week 3** |  | **Bootstrap framework for responsive websites**  (Mobile First approach, Grid model, Carousal, Wells, Pills, Forms and difference between version 3 and 4)  Class Lab |
| **Week 4** |  | **Class dedicated to latest Bootstrap 4 and Bootstrap Labs**  Class Lab |
| **Week 5** |  | **Learn Javascript, DOM and Ajax**  (Working with DOM Model , Node, Document Object, Element Node Object, Modifying a DOM Element and Properties, xmlHttpRequest object, Debugging Ajax applications, Using built-in functions on JQuery for Ajax and creating an Ajax library)  Class Lab |
| **Week 6** |  | **Advanced concepts of Javascript and JQuery**  (Understanding DOM Objects, Prototype, and Arrow Functions, Using JQuery Selectors, Navigating and Manipulating DOM Objects using JQuery, Chaining JQuery Object operations, Event Handlers using JQuery and Implementing Callbacks)  Class Lab |
| **Week 7** |  | **Mid Term Exam** |
| **Week 8** |  | **AngularJS and MVC**  (MVC Pattern, Data Binding, Directives, Models, Services, Scopes, Routing and Filters)  Class Lab |
| **Week 9** |  | **Learning Typescript**  (Syntax, Decision Making, Types, Classes, Objects, Namespaces, Modules, Ambients)  Class lab |
| **Week 10** |  | **Introduction to Node JS, Express JS and Mongo DB and Angular**  (create http server using node, routing using Express JS and Mongo DB concepts, Angular 2 Intro)  Class Lab |
| **Week 11** |  | **Continue learning Angular and learn MEAN stack**  Components, Templates, Metadata, Services, Decorators, Bindings, Dependency Injections, NGModule  Class Lab |
| **Week 12** |  | **Advanced Angular concepts lab**  Class Lab |
| **Week 13** |  | Rest API and full stack integration **using Apache, PHP and Mysql**  Class Lab |
| **Week 14** |  | Final Project Presentations |