CSC 443: Web Programming

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- Course information
- Course Objectives
- A Tiny assignment
- Overview of the web area

Who Am I?

- Haidar M. Harmanani
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  - 810 Block A
- Course Webpage:
  - http://vlsi.byblos.lau.edu.lb/csc443.html or
  - http://harmanani.github.io/csc443.html (mirror)

Course Overview

- Project-based course with a lot of self learning
- You have to eventually develop a web project
  - You choose the problem
  - You choose the technology
  - You choose the solution
  - You do what you want!
- Work in groups of 2
- Seminar and demo at the end
- Written report

Course Objectives

- ☐ At the end of this class you will be able to:
  - ◘ Design and implement an interactive and professional website using HTML, CSS, JavaScript and jQuery
  - ◘ Use PHP, MySQL and MongoDB for back-end programming
  - ◘ Enhance interactive websites with AJAX, JSON, and XML
  - ◘ Write simple constructs in NodeJS, Angular, and Python

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Course Objectives (cont.)

- ☐ Furthermore, you will be able to:
  - ◘ Understand the client-server programming model and apply this to your designs
  - ◘ Create your own web programming portfolio
  - ◘ Speak the web programming lingo
  - ◘ Have fun with web programming!

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Grading

☐ **Midterm:**   **25%**

☐ **Final:**   **35%**

☐ **Individual Labs:**   **15%**

☐ **Project:**   **25%**

- ◘ *Oral Presentation*   *2.5%*
- ◘ *Technical Merit*   *10%*
- ◘ *Look and feel*   *5%*
- ◘ *Technical Innovation*   *5%*
- ◘ *Written Report*   *2.5%*

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Web technologies we will talk about

- ☐ HTML5
- ☐ CSS3
- ☐ CGI
- ☐ Document Object Model (DOM)
- ☐ JSON - JavaScript Object Notation
- ☐ XML
- ☐ MySQL and MongoDB
- ☐ NodeJS
- ☐ JavaScript and JQuery
- ☐ AJAX
- ☐ AngularJS
- ☐ WebSocket
- ☐ Python for Web Programming and scraping

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Breaking Down the Topics

- The fundamentals
  - HTTP: web servers, browsers, how they communicate
- Front-end (client side) programming
  - HTML, CSS, JavaScript, JQuery
- Back-end (server side) programming
  - PHP, databases, MVC frameworks (AngularJS), NodeJS, WebSocket ....
- Deployment
  - scalability, performance, security ...

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Keep in Mind

- Can't teach everything in detail
- We will cover the important fundamental concepts that may be ignored when you self-learn the stuff
- Teach the tools that you need to do the assignments.
- Expose you to various technologies so that you will know where to go if you want to learn more and deeper

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Textbooks Info

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Content Management Systems

- ☐ A portal provides content authoring systems that allow non-technical staff to create content.

- ☐ Control access to content to allow only authorized users access to document repositories.

- ☐ In principle, Content Management Systems is a service (external application) which could be integrated within the portal
  - ◘ Wordpress
  - ◘ Drupal
  - ◘ Joomla

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Lab 1

- ☐ Write an html page that gives some info about yourself by Thursday and host it on *github* pages!
  - ◪ See https://pages.github.com
- ☐ Due on August 31, 2017

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Why did you take CSC 443?

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Why do you need CSC443?

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Lectures

- ☐ Check the schedule in the class webpage
    - ◘ http://harmanani.github.io
- ☐ Read the syllabus and policies carefully
- ☐ Reading, assgs, and labs will be posted online

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Lectures

- Lectures will be interactive. This means:
  - You will need to study the new material before every lecture (slides, book, and online material)
  - We will have a lab on every lecture, so you will need to code in almost every lecture
  - You will post your questions on the discussion board (on piazza) before each lecture. If you do not post any questions, I assume you have understood everything. Therefore…
  - You may be called in class to explain the material to your classmates

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Labs

- Labs involve:
  - Applying what we learned in class
  - Clean design and coding
  - Clear documentation
- Labs will be completed individually, unless stated otherwise
- Three Types
  - A simple static web page with style
    - pure front-end
  - A interactive web service where people can register and do cool stuff
    - front-end + back-end
  - An online application
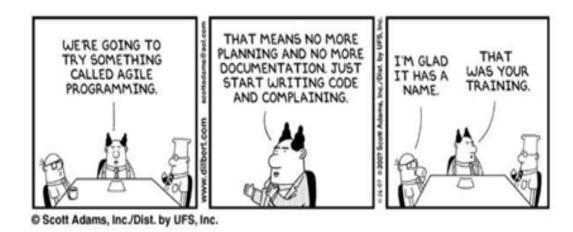   - advanced front-end + back-end

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And most importantly…

Copy assignments and labs you shall not!

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Programming Project

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Programming Project

- ☐ You can start working on this from the first week of the class

- ☐ Design and implementation of a professional website:
  - ◘ Professional Style
  - ◘ Interactive

- ☐ You can complete the project in teams of two

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Programming Project

- ☐ Your project should include at least four of the following grouped items with the first item being compulsory:
  - ◘ HTML, CSS, secure forms, JavaScript, AJAX, JSON, cookies, and sessions;
  - ◘ A Client-Side Framework such as jQuery or Angular;
  - ◘ Node.JS;
  - ◘ A non-structured database such as MongoDB or NoSQL;
  - ◘ PHP and MySQL;
  - ◘ A Web Service - use an external web service, mashed up with your own application to create something even better.

- ☐ Your project should document the use of these technologies!

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Programming Project

Design & Evaluate - think carefully about how users will use your site, design a great interface, and evaluate it with real people.

Go Mobile - create a version of your project designed to go mobile.

Server-Side Processing - do processing on the server to prepare for user requests in advance.

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Policies

☐ Cheating means "submitting, without proper attribution, any computer code that is directly traceable to the computer code written by another person."

☐ Or even better:

■ "Any form of cheating, including concealed notes during exams, copying or allowing others to copy from an exam, students substituting for one another in exams, submission of another person's work for evaluation, preparing work for another person's submission, unauthorized collaboration on an assignment, submission of the same or substantially similar work for two courses without the permission of the professors. Plagiarism is a form of Academic Misconduct that involves taking either direct quotes or slightly altered, paraphrased material from a source without proper citations and thereby failing to credit the original author. Cutting and pasting from any source including the Internet, as well as purchasing papers, are forms of plagiarism."

☐ I give students a failing homework grade for any cheating.

☐ A second cheating attempt will be in an F in the course!

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Policies

☐ You may discuss homework problems with classmates, after you have made a serious effort in trying the homework on your own.

☐ You can use ideas from the literature (with proper citation).

☐ You can use anything from the textbooks/notes.

☐ The code you submit **must be written completely by you.**

Policies

☐ Late policy:

　▪ 5% is reduced by every day the homework is late

Discussion Board (Piazza)

☐ All course announcements will be sent through Piazza

   ◘ Do not send me questions directly

   ◘ Send all your questions via piazza!

   ◘ Good way to get your questions answered, also benefits the whole class.

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