CMSC 210: Web Page Design and Scripting (3 credits)
Spring 2019

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Course Web Site: http://marmorstein.org/~robert/Spring2019/cs210.html
Lecture/Lab: 2:00pm-2:50pm MWF   Stevens 118
Office Hours: 1:00pm-1:50pm MWF, 3:00pm-3:50pm TR   Ruffner 329

I am also available by appointment. My schedule is posted near my office door. To make an appointment, please check the schedule to see which times I am free, then contact me by e-mail and list some possible times we could meet.

Course description: The class will study interactive web pages that provide customized data in response to visitor requests and/or collect data from site visitors. This interaction will be done via program scripts written in an appropriate language.

Prerequisite: CMSC 140 or CMSC 160

Required Textbook: No textbook is required for this course. However, I will be assigning reading from various web resources and tutorials. It is important that you read these articles for comprehension *(Note: This DOES mean taking notes on them!)*

Other Recommended Resources:
> The WHATWG web site (https://whatwg.org/)
> The WWW Consortium web site (http://www.w3c.org/)
> The HTML dog web site (http://htmldog.com/)
> The CSS "Zen" Garden (http://http://www.csszengarden.com/)
> The Modern Javascript Tutorial (https://javascript.info/)

Course objectives:
> By the end of the semester, the successful student will be able to:
>
> * Create web pages using HTML markup and CSS styling.
> * Make a page dynamic using Javascript and JQuery
> * Store information in a database or file using Python microservices
> * Build responsive web applications using AJAX functions.

Course Work: Your grade will be determined by your performance on the final exam (15%), homework and quizzes(10%) and programming projects (75%).

Grading Policy:
Late work will not be accepted unless you have a serious medical or family emergency which prevents you from completing the assignment on time. In such cases, you do not need a doctor's note, but you must send me e-mail within twelve hours of the assignment due date to explain your circumstances and to make arrangements for the work to be completed.

Grading Scale:

		100-91:	A		90:	A-
89:	B+	88-81:	B		80:	B-
79:	C+	78-71:	C		70:	C-
69:	D+	68-64:	D			
63 or lower: F		(There is no grade of D- in this course)				

Attendance:

I expect you to attend class unless you are sick or engaged in a school-sponsored sport or extracurricular activity. Please do NOT come to class if you are sick. Instead, contact me within 12 hours of the absence to check whether you've missed any work and then make arrangements to get notes from another student in the class. You should also check the course web site for announcements, new assignments, and other important updates.

I will rely primarily on your honor for enforcement of the attendance policy. However, I will keep a record of your attendance as required by Longwood policy. In accordance with campus policy, missing more than 10% of scheduled class time (about 5 class sessions) to unexcused absences may, at my discretion, result in loss of one letter grade and missing 25% of class or more (about 14 sessions), whether excused or not may result in an automatic failing grade.

Collaboration:

Exams and quizzes are to be completed entirely on your own. You may discuss the homework and lab projects with other students subject to these restrictions:

1. You should turn in only work which YOU have typed or hand-written.
The work you submit should, in general, be either your own original work or material which I have provided and you have modified without help from others. You MAY assist other students or get assistance with simple problems like syntax errors, but you may NOT copy large blocks of code from each other. A good guideline of what "large" means is that changes that involve one or two lines of code are usually okay, but copying more than three complete statements is usually too much.

2. You may NOT copy code electronically from other students or the Internet.

This doesn't mean you can't look online for help with a project. It just means that you shouldn't copy/paste or download code and turn it in as your own. You must re-type any code you find (again subject to the three line limit).

*You may not share code with other students using flash drives, cell phones, e-mail, web sites, floppy disks, CDs, or **any other** electronic storage or communication device unless you are both assigned to the same group for a project. You may not print out copies of your code to share with other students (personal copies or copies for other students in your group are fine).*

3. You must give proper attribution.
Whenever you receive help or use an online resource, you should comment your code to give proper credit. A simple comment like "/* based on <u>http://codewarrior.com</u> */" is fine. This comment should go directly above or directly after the place that you used the resource or received help to make it clear which parts of your program are not entirely original.

4. You are responsible for securing your code.
Helping other students to cheat is also cheating. Furthermore, it is your responsibility to make sure that other students do not use your work to cheat. Be careful with who you allow to access your computer or account. Report any missing files, flash drives, or other devices that contain your work to me promptly.
Infractions of these policies will be dealt with harshly under the Longwood Honor Code. Any student convicted of an honor offense involving this class will automatically receive a final course grade of **F** in addition to any penalties imposed by the Honor Board. You should consider all work in this class to be pledged work, whether or not the pledge appears on the assignment.

Food and Drink:
You may bring non-alcoholic beverages, including soft drinks, to class. However, please do not eat in class (it distracts me and the other students). Violations of this policy will be considered an unexcused absence. I occasionally grant exceptions to this rule for students who must otherwise forgo lunch or have medical needs that require them to eat in class. If you feel that you need such an exception, you must make arrangements with me in advance (that is, before bringing food to class).

Cell Phones and Laptops:
Cell phones, music players, and laptops are to be turned off and put away during class, except as needed for the lab sessions. Violations of this policy will be considered an unexcused absence.

Tentative Course Schedule:

Week 1: Jan. 16-18 Introduction, HTTP, Networking Basics, Basic HTML 5 **Read RFC 1945 (https://tools.ietf.org/html/rfc1945)**

Last Day to Add/Drop classes: **Jan. 23rd**

Week 2: Jan. 21-25 HTML5 Structure Elements, Images, and SVG **Read "In Depth SVG Tutorial" (https://flaviocopes.com/svg/)** **Lab 1: Introduction to HTML**

Week 3: Jan. 28-Feb. 1   Introduction to Cascading Style Sheets **Read CSS Tutorial (https://www.csstutorial.net)**

Week 4: Feb. 4-8   Advanced Cascading Style Sheets and CSS Layout **Read Flexbox Tutorial (https://internetingishard.com/html-and-css/flexbox/)** **Lab 2: Introduction to CSS**

Week 5: Feb. 11-15	Introduction to Javascript
	Read Modern Javascript Tutorial Part 1, Chapters 1 – 3 (https://javascript.info/)

Week 6: Feb. 18-22	Object-Oriented Programming in Javascript
	Read Modern Javascript Tutorial Part 1, Chapters 4 – 8 (https://javascript.info/)

Week 7: Feb. 25-29	Using JQuery
	Read JQuery Fundamentals Tutorial (http://jqfundamentals.com/chapter/jquery-basics) **(Read "Basics" through "AJAX and Deferreds")**
	Lab 3: Using Javascript and JQuery

Spring Break - No Class: **Mar. 4 – 8**

Week 8: Mar. 11-15	Introduction to Python
	Read Python Tutorial (Chapters 1 – 5) (https://docs.python.org/3/tutorial/)

Week 9: Mar. 18-22	Python Data Structures and File I/O
	Read Python Tutorial (Chapters 6 – 8) (https://docs.python.org/3/tutorial/)
	Lab 4: Python CGI Scripts

Week 10: Mar. 25-28	Using and Creating APIs **Read Oxford Dictionaries API** (https://developer.oxforddictionaries.com/documentation)
	Lab 5: Using an API in Python

Week 11: Apr. 1-5	Flask and Jinja **Read Flask Tutorial (http://flask.pocoo.org/docs/1.0/tutorial/)**

Deadline to withdraw without an F: **Apr. 2**

Week 12: Apr. 8-12	Cookies, Requests, and AJAX
	Lab 6: Server Side Programming Using Flask and Jinja

Week 13: Apr. 15-19	Introduction to SQL **Read SQL Bolt Tutorial (Lessons 1 – 9) (https://sqlbolt.com/)**

Week 14: Apr. 22-26	Using SQL in Python **Read Psycopg2 Tutorial (http://initd.org/psycopg/)** **Lab 7: Using Databases on the Server**

Apr. 23 **Research Day**

Week 15: Apr. 29	**Catchup and Review**

May 8 **Final Exam (Wed. 8:00am – 10:30am)**