

CS174 Spring 2017 Sec1 Sec Home Page/Syllabus

Server-side Web Programming

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Office Hours: MW 4:30-5:30pm
Class Meets:
Sec1 MW 1:30-2:45pm in MH422

Prerequisites

To take this class you must have taken: [CS46B](#) with a grade of C- or better.

Texts and Links

Required Texts:	No textbook is required for this class. I will on occasion put up links for the material I'm presenting each week in the schedule below.
Online References and Other Links:	XAMPP (Easy to install Apache, PHP, MySQL bundle) . Mozilla Javascript Reference . PHP Manual . Apache Webserver Site . Firefox .

Description

This class is designed for potential web server programmers. It begins with a quick overview of HTTP and common web servers. HTML and cascading style sheets will then be covered. PHP, a common web server programming language, will be introduced. Then we will discuss building more sophisticated web applications using PHP classes and the model view controller design pattern. We will talk about how to connect a web application to a database and common techniques for performing the object-relational mapping to create models based on table data. Next we will discuss creating application specific mini web languages using XML. This will be used to introduce how to interact with a database using a REST API and AJAX techniques. In the process of covering the last two topics we will learn how to mitigate against common website attacks such as SQL Injection, XSS, CSRF, click-jacking. We will talk about how to make web sites available to people of different abilities, people who speak different languages. We will cover adding multimedia content to sites using HTML 5. In this context we will talk a little about mobile app development using HTML 5. Then we will give a brief introduction to some popular pre-built PHP and Javascript frameworks and packages. Finally, we will talk a little bit about website search, and Search-Engine Optimization (SEO).

Course Learning Outcomes (CLOs)

By the end of this course, a student should be able to:

CLO1 -- Write HTML documents containing standard HTML elements including forms, tables, client-side scripts, and server-side scripts.

CLO2 -- Write schemas, DTDs, and style sheets for XML documents.

CLO3 -- Write server-side scripts that process HTML forms.

CLO4 -- Write client-side scripts that validate HTML forms.

CLO5 -- Develop and deploy web applications that involve components, web services, and databases.

Course Schedule

Below is a tentative time table for when we'll do things this quarter:

Week 1: Jan 30, Feb 1	Intro to Web Development, Web Browsers, Servers
Week 2: Feb 6, Feb 8	HTTP, Start XHTML and HTML 5
Week 3: Feb 13, Feb 15 (HW1 due)	Basic Tags, Tables and Forms
Week 4: Feb 20, Feb 22	Finish Intro to HTML. Cascading Style Sheets
Week 5: Feb 27, Mar 1	Finish CSS. PHP Variables, Control Arrays
Week 6: Mar 6, (HW2 due) Mar 8	PHP Regex Form Handling. Cookies, Sessions, Web Design Patterns
Week 7: Mar 13, Mar 15	Databases, Start PHP Classes
Week 8: Mar 20, Mar 22 (Midterm)	Review
Week 9: Mar 27, Mar 29	Spring Recess
Week 10: Apr 3, Apr 5 (HW3 due)	OO in PHP, Autoloading
Week 11: Apr 10, Apr 12	Version Control, Javascript
Week 12: Apr 17 , Apr 19	OO Javascript (prototype, closures, IIFE)
Week 13: Apr 24, (HW4 due) Apr 26	XML, Web services, AJAX, Security
Week 14: May 1, May 3	Scaling Websites, MEAN Stack
Week 15: May 8 , May 10	Multimedia and Mobile HTML5
Week 16: May 15 (HW5 due) , May 17 (No class)	Review
	The final will be Monday, May 22 from 12:15-2:30pm

Grading

HWs and Quizzes	50%
Midterm	20%
Final	30%
Total	100%

Grades will be calculated in the following manner: The person or persons with the highest aggregate score will receive an A+. A score of 55 will be the cut-off for a C-. The region between this high and low score will be divided into eight equal-sized regions. From the top region to the low region, a score falling within a region receives the grade: A, A-, B+, B, B-, C+, C, C-. If the boundary between an A and an A- is 85, then the score 85 counts as an A-. Scores below 55 but above 50 receive the grade D. Those below 50 receive the grade F.

If you do better than an A- in this class and want me to write you a letter of recommendation, I will generally be willing provided you ask me within two years of taking my course. Be advised that I write better letters if I know you to some degree.

Course Requirements, Homework, Quiz Info, and In-class exercises

This semester we will have five homeworks, weekly quizzes, and weekly in-class exercises.

Every Monday this semester, except the first day of class, the Midterm Review Day, and holidays, there will be a quiz on the previous week's material. The answer to the quiz will either be multiple choice, true-false, or a simple numeric answer that does not require a calculator. Each quiz is worth a maximum of 1pt with no partial credit being given. Out of the total of twelve quizzes this semester, I will keep your ten best scores.

On Wednesday's, we will spend 15-20 minutes of class on an in-class exercise. You will be asked to post your solution to these exercises to the class discussion board. Doing so is worth 1 "pre-point" towards your grade. A "pre-point" can be used to get one missed point back on a midterm or final, up to half of that test's total score. For example, if you scored 0 on the midterm and have 10 pre-points, you can use your pre-points, so that your midterm score is a 10. On the other hand, if you score 18/20 on the midterm, you can use at most 1 pre-point since half of what you missed (2pts) on the midterm is 1pt.

Links to the current list of homeworks and quizzes can be found on the left hand frame of the class homepage. After an assignment has been returned, a link to its solution (based on the best student solutions) will be placed off the assignment page. Material from assignments may appear on midterms and finals. **For homeworks you are encouraged to work in groups of up to three people. Only one person out of this group needs to submit the homework assignment; however, the members of the group need to be clearly identified in all submitted files.**

Homeworks for this class will be submitted and returned completely electronically. To submit an assignment click on the submit homework link for your section on the left hand side of the homepage and filling out the on-line form. Hardcopies or e-mail versions of your assignments will be rejected and not receive credit. Homeworks will always be due by the start of class on the day their due. Late homeworks will not be accepted and missed quizzes cannot be made up; however, your lowest score amongst the five

homeworks and your quiz total will be dropped.

For this class, I expect each student to have available a laptop with Apache, PHP, Node.js, and MYSQL installed. Your laptop will be used whenever you want to show me something in my office concerning one of your projects.

When doing the programming part of an assignment please make sure to adhere to the specification given as closely as possible. Names of files should be as given, etc. Failure to follow the specification may result in your homework not being graded and you receiving a zero for your work.

Classroom Protocol

I will start lecturing close to the official start time for this class modulo getting tangled up in any audio/visual presentation tools I am using. Once I start lecturing, please refrain from talking to each other, answering your cell phone, etc. If something I am talking about is unclear to you, feel free to ask a question about it. Typically, on practice tests days, you will get to work in groups, and in so doing, turn your desks facing each other, etc. Please return your desks back to the way they were at the end of class. This class has an online class discussion board which can be used to post questions relating to the homework and tests. Please keep discussions on this board civil. This board will be moderated. Class and discussion board participation, although not a component of your grade, will be considered if you ask me to write you a letter of recommendation.

Exams

The midterm will be during class time on: Mar 22.

The final will be: Monday, May 22 from 12:15-2:30pm.

All exams are closed book, closed notes and in this classroom. You will be allowed only the test and your pen or pencil on your desk during these exams. The final will cover material from the whole semester although there will be an emphasis on material after the last midterm. No make ups will be given. The final exam may be scaled to replace a midterm grade if it was missed under provably legitimate circumstances. These exams will test whether or not you have mastered the material both presented in class or assigned as homework during the quarter. My exams usually consist of a series of essay style questions. I try to avoid making tricky problems. The week before each exam I will give out a list of problems representative of the level of difficulty of problems the student will be expected to answer on the exam. Any disputes concerning grades on exams should be directed to me, Professor Pollett.

Regrades

If you believe an error was made in the grading of your program or exam, you may request **in person** a regrade from me, Professor Pollett, during my office hours. **I do not accept e-mail requests for regrades.** A request for a regrade must be made no more than a week after the homework or a midterm is returned. If you cannot find me before the end of the semester and you would like to request a regrade of your final, you may see me **in person** at the start of the immediately following semester.

University Policies and Procedures

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at <http://www.sjsu.edu/gup/syllabusinfo/>. Below are some brief comments on some of these policies as they pertain to this class.

Academic Integrity

For this class, you should obviously not cheat on tests. For homeworks, you should not discuss or share code or problem solutions between groups! At a minimum a 0 on the assignment or test will be given. A student caught using resources like Rent-a-coder will receive an F for the course. Faculty members are required to report all infractions to the Office of Student Conduct and Ethical Development.

Accommodations

If you need a classroom accommodation for this class, and have registered with the [Accessible Education Center](#), please come see me earlier rather than later in the semester to give me a heads up on how to be of assistance.