

Syllabus

version 1.2

Instructor

David J. Malan
dmalan@harvard.edu

Description

Today's websites are increasingly dynamic. Pages are no longer static HTML files but instead generated by scripts and database calls. User interfaces are more seamless, with technologies like Ajax replacing traditional page reloads. This course teaches students how to build dynamic websites with Ajax and with Linux, Apache, MySQL, and PHP (LAMP), one of today's most popular frameworks. Students learn how to set up domain names with DNS, how to structure pages with XHTML and CSS, how to program in JavaScript and PHP, how to configure Apache and MySQL, how to design and query databases with SQL, how to use Ajax with both XML and JSON, and how to build mashups. The course explores issues of security, scalability, and cross-browser support and also discusses enterprise-level deployments of websites, including third-party hosting, virtualization, colocation in data centers, firewalling, and load-balancing.

Prerequisites

One or more years of programming experience in any language and knowledge of HTML are assumed.

Expectations

You are expected to attend all lectures and implement three projects.

Grades

Your final grade will be based on your performance on the course's projects, each of which will bear equal weight. Projects will be evaluated along the axes of correctness, design, scope, and style, with correctness weighted the most and style weighted the least.

Website

The address of this course's website is:

`https://www.cs75.net/`

Help

For help throughout the course, visit:

`http://help.cs75.net/`

Lectures

Lectures will take place in Northwest Science Building B101 on Mondays and Wednesdays from 6:30pm until 9:30pm.

A schedule of lectures, subject to change, appears below.

Lecture 0: HTTP

Mon 6/27

Lecture 1: PHP

Wed 6/29

Lecture 2: PHP, Continued

Wed 7/6

Lecture 3: XML

Mon 7/11

Lecture 4: SQL

Wed 7/13

Lecture 5: SQL, Continued

Mon 7/18

Lecture 6: JavaScript

Wed 7/20

Lecture 7: Ajax

Mon 7/25

Lecture 8: Security

Wed 7/27

Lecture 9: Scalability

Mon 8/1

Sections

Sections offer opportunities to review recent lectures' material in a more intimate environment with only a teaching fellow and a handful of classmates present. Sections also provide guidance on projects.

A schedule of sections appears on the course's website.

Projects

A schedule of projects, subject to change, appears below.

Project 0

Released: Mon 7/11

Due: Wed 7/20, noon

Project 1

Released: Mon 7/18

Due: Wed 7/27, noon

Project 2

Released: Mon 7/25

Due: Wed 8/10, noon

Extensions on these projects will not be granted, except in cases of emergency. Technical difficulties will not constitute emergencies. Late submissions will be penalized 10% per hour (or fraction thereof) late. Lateness will be determined by submissions' timestamps.

Exams

This course has neither a midterm nor a final exam.

Books

No books are required for this course, but you may find the below helpful during and after the course. Although some are out of print, all of these books are available for purchase at sites like Amazon.com. Realize that links to free, if not superior, alternatives to these books can be found on the course's website.

For Those Less Comfortable

HTML, XHTML, and CSS: Your visual blueprint for designing effective Web pages

Rob Huddleston

Wiley Publishing, Inc., 2008

ISBN-13 978-0-470-27436-1

*JavaScript: Your visual blueprint for building dynamic Web pages, 2nd Edition**

Eric Pascarello

Wiley Publishing, Inc., 2004

ISBN-10 0-7645-7497-3

PHP & MySQL: Your visual blueprint for creating dynamic, database-driven Web sites

Janet Valade

Wiley Publishing, Inc., 2006

ISBN-10 0-4700-4839-5

For Those More Comfortable

Apache Phrasebook

Daniel Lopez

Sams Publishing, 2006

ISBN-10 0-672-32836-4

JavaScript Phrasebook

Christian Wenz

Sams Publishing, 2007

ISBN-10 0-672-32880-1

Linux Phrasebook

Scott Granneman

Sams Publishing, 2006

ISBN-10 0-672-32838-0

* Out of print but available from third parties on Amazon.com.

MySQL Phrasebook

Zak Greant, Chris Newman
Sams Publishing, 2006
ISBN-10 0-672-32839-9

PHP Phrasebook

Christian Wenz
Sams Publishing, 2006
ISBN-10 0-672-32817-8

Academic Honesty

All work that you do toward fulfillment of this course's expectations must be your own unless collaboration is explicitly allowed (*e.g.*, by some problem set or the final project). Viewing or copying another individual's work (even if left by a printer, stored in an executable directory, or accidentally shared in the course's virtual classroom) or lifting material from a book, magazine, website, or other source—even in part—and presenting it as your own constitutes academic dishonesty, as does showing or giving your work, even in part, to another student.

Similarly is dual submission academic dishonesty: you may not submit the same or similar work to this course that you have submitted or will submit to another. Nor may you provide or make available your or other students' solutions to Project 0, Project 1, or Project 2 to individuals who take or may take this course (or CSCI E-75) in the future.

You are welcome to discuss the course's material with others in order to better understand it. You may even discuss problem sets with classmates, but you may not share code. You may also turn to the Web for instruction beyond the course's lectures and sections, for references, and for solutions to technical difficulties, but not for outright solutions to problems on projects. However, failure to cite (as with comments) the origin of any code or technique that you do discover outside of the course's lectures and sections (even while respecting these constraints) and then integrate into your own work may be considered academic dishonesty.

If in doubt as to the appropriateness of some discussion or action, contact the staff.

All forms of academic dishonesty are dealt with harshly. If the course refers some matter to the Administrative Board and the outcome for some student is disciplinary action, the course reserves the right to impose local sanctions on top of that outcome for that student that may include, but not be limited to, a failing grade for work submitted or for the course itself.