

# Web Development Course Outline

## Instructor

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## Textbook

No required textbook.

For the PHP and MySQL portion of the class you may be interested in:

PHP and MySQL Web Development (4th Edition)

ISBN: 9780672329166

## Prerequisites

CS 162 or equivalent. If you do not have prior experience in at least one object oriented language, be prepared to spend a lot of time (10's of hours a week) learning the new languages as they are presented.

## Overview

This course is designed to give students the skills needed to implement a dynamic, interactive website. This will cover concepts related to layout, client side interaction and server side scripting.

## Topics

### Layout and Styling

- HTML 5
  - Differences from previous version of HTML
  - Validation of HTML 5 documents
- CSS
  - Selectors
  - Pseudo-classes

### Client Side Interactions

- JavaScript
  - Basic use of the language
  - Debugging
- Ajax
  - Purpose of asynchronous calls
  - Loading and parsing data using an asynchronous call
- JSON objects
- JavaScript libraries
  - jQuery

## Server Side Scripting

- PHP
  - Basic use
  - Debugging
  - Sessions
  - GET and POST requests
  - Interaction with a database
- SQL
  - Basic introduction
  - Use of the language
    - Table creation and deletion
    - Inserting and deleting
    - Selection and updating

## Usability

- Basic concepts of learnability, memorability and efficiency
- Prototyping for user feedback

## Scalability

- Client side vs server side operations
- Caching

## Security

- Introduction to various kinds of attacks
  - SQL injection
  - Cross site scripting
  - Man in the middle
- Design considerations to mitigate risks

## Typical Grading Scale

A >= 92 %  
A- 90-91  
B+ 87-89  
B 82-86  
B- 80-81  
C+ 77-79  
C 72-76  
C- 70-71

D+ 67-69  
D 62-66  
D- 60-61  
F <= 59

\* REMINDER: A passing grade for core classes in CS is a C or above. A C-, 72 or below, is not a passing grade for CS majors.

## Grade Breakdown

- Assignments 25%
  - There will be three assignments covering layout, client side scripting and server side scripting
  - All will be weighted equally
- Documentation/How-To 25%
  - You will be required to learn and document a 3rd party library making a meaningful addition to any pre existing documentation.
- Final project 25%
  - The final project will combine all the skills you learned in the class to make a website which includes client side interactions and dynamic page generation
- Final exam 25%
  - The final will require you to ask questions about general concepts, understanding code and potentially writing code.

## Coding Expectations

All HTML is expected to validate at [validator.w3.org](http://validator.w3.org) and be free of errors, warnings and avoidable notices. JavaScript is expected to validate via the specified JS Lint software and PHP must validate using the `php -l <filename>` command.

For almost any topic covered in this class, there will be numerous examples of accomplishing that same task or a similar task online. You should write your code from scratch as much as possible, you will learn the material better this way. As noted below, you will be asked to explain, in detail borrowed code. You will receive a 0 on any assignment that contains any code that was copied but not cited.

## Late Policy

Assignments lose 10% for every day that they are late. However, any assignment can be turned in prior to week 8 for up to 50% credit. The final exam must be taken on time. The final project may not be turned in late without prior authorization.

**Code Sharing Policy** At no point will you get in trouble for sharing your code with others. Period. In fact, if you are not sharing code it will be difficult to get help when debugging your code and it will make getting discussion credit difficult if it is required. **If you use code from any source**

**you must cite it. Other sources include but are not limited to: the lectures, other students, the internet or magic oracles.** I reserve the right to make you explain your turned in code to me either in writing or a voice conversation. If you cite too much code from elsewhere, your odds of having to explain its working to me increase. There is no need to reinvent the wheel, but you need to know how the wheel works if you are going to use it.

## **Academic Dishonesty:**

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:

a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.

b) It includes:

(i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.

(ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.

(iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not

limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).

(iv) TAMPERING - altering or interfering with evaluation instruments or documents.

(v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work.

Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own. c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

## **Students with Disabilities**

Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at (541)

737-4098. Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should be aware of, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, and no later than the first week of the term.