

## Syllabus

Web Development – COMP 2500

1:00 pm MWF – Science 207

Fall 2019

**Instructor:** Dr. Frank McCown

**Contact:** 501-279-4826, HU Box 10764, fmccown@harding.edu

**Home Page:** <http://www.harding.edu/fmccown/classes/comp2500-f19/>

**Office Hours:** Science 208: 8-9 daily, 4-5 Tue & Thu, 2-5 Fri or by appointment

### Course Description

This course provides a solid foundation of current web development technologies including HTTP, HTML, CSS, JavaScript, PHP, and MySQL. The Apache web server and Linux OS will be the primary platform used. Prerequisite: COMP 1700 or 1500/1510.

Required online textbook: *Web Programming* by McCown, et al. from zyBooks.

To get your zyBook:

1. Sign up for an account at [learn.zybooks.com](http://learn.zybooks.com) using your Harding email address
2. Enter zyBook code: **HARDINGCOMP250McCownFall2019**
3. Click *Subscribe*

### Student Learning Outcomes

At the end of this course, students will be able to...

1. Identify important events, individuals, and organizations in Internet and Web history.
2. Describe how web browsers and web servers communicate using HTTP.
3. Construct web pages using HTML and CSS for desktop and mobile browsers.
4. Write JavaScript code to respond to browser events, make asynchronous requests, and dynamically alter a web page.
5. Describe how user authentication works in a web environment.
6. Develop a website that uses PHP to store and retrieve data in a relational database.

### Participation

Each class is a mixture of lecture, discussion, and trying things out on the computer. Your attendance is necessary to be successful. To encourage your engagement and to help the instructor gauge whether the class understands the material, you will often be asked multiple choice questions during class using Plickers. Your response is recorded, and the percentage of correct responses forms your participation score (5% of your overall grade).

You will be given a Plickers card on the second day of class. It is your responsibility to bring your Plickers card to class *every day*. If you forget your Plickers card, you will receive a 0 for your participation score that day.

Your attendance is recorded in Canvas. You may enjoy two “free skips”, but each unexcused absence after that will result in a **1% deduction** from your participation score. If you are absent, you should check Canvas for missing notes and homework assignments and watch missed class on Echo360. Late work will be penalized unless your absence is excused.

### Exams

There will be three regular exams and a comprehensive final exam that will also include all material covered after the third exam. If for **any** reason you are not able to take an exam, you must notify me **before** the exam (or as soon as you are physically possible). Failure to do so may result in a **zero** for the exam. Makeup exams for excused absences will be given, but a penalty of up to 75% will apply for unexcused absences, at the teacher’s discretion. If an official school function takes you out of class

on an exam date, it is your responsibility to make arrangements one week prior to the exam as to when you will take the exam. Usually it will be given early, not late. Phones must be turned off and put away.

### **Reading Assignments, Homework, and Projects**

Reading assignments require students to read and complete the Participation Activities (animations and questions) in the zyBook *before* class. Points are awarded based on the percent of completed Participation Activities. Students may complete the Participation Activities **one day late** for half credit, but no credit is awarded after one day late.

Homework assignments are small assignments that are intended to give you practice implementing a concept introduced in class. Homework assignments are to be completed individually or, on some occasions, in pairs (two people only). **Important:** If you complete a homework assignment with a partner, please write on the top of the assignment who your partner was.

Three large projects will be assigned that involve significant effort and require students to integrate several weeks' worth of learning. Projects may be completed independently or in pairs (two people only). Pair programming has been shown to have a number of benefits including increased personal satisfaction and fewer errors<sup>1</sup>. If you work in pairs, both of you must work together on a *single* computer, and both of you must write *approximately half* of the code. **Do not write code without your partner present and watching.** Both of you should understand completely what is being written since you will have to complete your exams individually. When you submit a program to Canvas that has been written in pairs, you must put comments in your code indicating the names of both programmers. Only one student needs to submit their solution to Canvas.

### **Extra Credit**

A maximum of 1.5% extra credit can be earned and applied to your final grade.

1. Computing Seminars: You will receive **0.1%** points extra credit to be added to your final grade for each Computing Seminar that you attend. Seminar meets every Friday at 7:00 am and sometimes on Thursdays at 4:00 pm in Science 113. The first seminar will begin around the 4<sup>th</sup> week of the semester. There will be approximately 15 seminars, thus allowing you to increase your final grade by 1.5%. See <http://www.harding.edu/academics/colleges-departments/sciences/computer-science> for the complete schedule.
2. Giving blood: Donating at the Red Cross blood drives will earn you **0.2%** added to your final grade each time you donate. Donate as many times as you'd like, and give me a signed note confirming your donation each time you donate.
3. The McChallenge: **1%** will be added to your final grade for the completion of extra work on the final project. You also earn the extra credit if you defeat me in a game of basketball, tennis, racquetball, Halo, chess, Trivia Pursuit, or any other sport/game that I know how to play. If you lose, you may still complete the extra work to get your 1%. Only one challenge per semester which must be completed *before* the final week of class. Come by my office to schedule a time to play.

### **Grades**

Final grades are computed with the following weights:

Reading:	5%
Participation:	5%
Homework:	15%
Projects:	25%
Exams:	30%
Final Exam:	20%

Letter grades: A = 90-100%, B = 80-89% C = 70-79%, D = 60-69%, F = 0-59%

Late work: A maximum of 10% will be taken off *each day* (including weekends) an assignment is late, up to 50%. Nothing late more than 1 week will be accepted. Those with excused absences are still expected to turn in assignments as soon as you are physically capable of doing so.

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<sup>1</sup> See *All I Really Need to Know about Pair Programming I Learned in Kindergarten* (2000) for more information on effectively using pair programming.

Final grades are not rounded unless the student has given significant effort which is evidenced by regular attendance, completion of nearly all homework assignments, significant effort on projects, etc.

## **Course Culture**

1. Shortcuts don't exist.
  - You cannot learn without considerable effort. Be prepared to spend at least **two hours** outside of class for every hour in class (9 hours a week) studying, reading, completing homework and projects, and preparing for exams.
  - Keep up with your reading and homework. Start your homework and projects on time so you can get help from the instructor when needed.
  - Come by during office hours (or we'll arrange a time) for assistance on assignments. Visit the tutor in 201 who is available throughout the week in the evenings. Remember that I'm here to help you.
2. Be considerate of others.
  - Help create an environment where you and your classmates can effectively learn.
  - Be on time. Stay awake. Engage in class discussion. Ask questions.
  - Keep your phone put away.
  - Use your computer for coursework only so you do not distract yourself or those around you.
3. Glorify God in all you do.
  - "Whatever you do... do it all to the glory of God." – 1 Cor 10:31
  - Make the most of the time God has given you to learn and develop a skill.
  - Everyone is expected to hold to the **highest standard** of personal conduct and **integrity**. Cheating in all its forms is inconsistent with Christian faith and will result in sanctions up to and including dismissal from the class with a failing grade. You are cheating when you submit work performed by anyone but yourself and your partner. *Never* allow someone to view your source code as this often leads to cheating.
4. Miscellaneous
  - Check Canvas **daily** for announcements and discussions. Canvas contains class recordings (Echo360 link).
  - Notes for each day are available on Canvas. If you want to print them out, please do so *before* class so you don't disrupt others.
  - **No food** or drink is permitted in the lab. However, I will allow you to bring in a drink with a lid until we have a spill.

## **Assessment**

Harding University, since its charter in 1924, has been strongly committed to providing the best resources and environment for the teaching-learning process. The board, administration, faculty, and staff are wholeheartedly committed to full compliance with all criteria of the Higher Learning Commission. The university values continuous, rigorous assessment at every level for its potential to improve student learning and achievement and for its centrality in fulfilling the stated mission of Harding. Thus, a comprehensive assessment program has been developed that includes both the Academic units and the Administrative and Educational Support (AES) units. Specifically, all academic units will be assessed in reference to the following Expanded Statement of Institutional Purpose: **The University provides programs that enable students to acquire essential knowledge, skills, and dispositions in their academic disciplines for successful careers, advanced studies, and servant leadership.**

## **Students with Disabilities**

It is the policy for Harding University to accommodate students with disabilities, pursuant to federal and state law. Therefore, any student with a *documented disability* condition (e.g. physical, learning, psychological, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the instructor and the Disabilities Office at the *beginning* of each semester. (If the diagnosis of the disability occurs during the academic year, the student must self-identify with the Disabilities Director *as soon as possible* in order to get academic accommodations in place for the remainder of the semester.) The Disabilities Office is located in Room 205 of the Student Center, telephone, (501) 279-4019.

## Schedule

The following schedule is subject to change but gives you an idea of how the class will progress:

Week 1 Aug 19	Introduction Internet & Web history Terminology	Week 7	Event handling DOM, CSS, timers Project 2 – JavaScript	Week 13	Project 3 – PHP User authentication
Week 2	HTTP Intro to HTML	Week 8 Oct 7	Canvas, audio, video <b>Exam 2</b> <i>Fall break</i>	Week 14	Ajax Third-party web APIs
Week 3	Links, images Lists, tables, misc. Taz Project 1 – Website	Week 9	Intro to PHP Data types, arrays, functions	<i>Thanksgiving Break</i>	
Week 4 Sep 9	Cascading Style Sheets <b>Exam 1</b>	Week 10	Submitting form data File I/O	Week 15	Mobile web dev
Week 5	HTML forms Intro to JavaScript	Week 11	Cookies & sessions	Week 16	<b>Final Exam</b> Dec 6
Week 6	JavaScript objects Debugging	Week 12 Nov 4	MySQL and SQL <b>Exam 3</b>		

