CPS 276 – Web Programming Using Apache, MySQL, and PHP
Course Syllabus – Winter 2016

Instructor: Jason Jarvis
Email: jbjarvis@wccnet.edu
Office Hours: by appointment

Course Description:

Students will build dynamic database-driven Web applications using PHP and MySQL.

Text:

Murach's PHP and MySQL, Joel Murach and Ray Harris

Additional reference material is available on the official website of PHP:
http://php.net/manual/en/
.... And MySQL:
http://dev.mysql.com/doc/

Course Policies:

- All students are expected to attend all scheduled class sessions.
- Any student missing two or more class sessions during the semester will receive a failing grade. Prior notification by email must be given to the instructor in the case of an emergency absence.
- All web application assignments must be published to the web server provided for course use. **Assignments may not be emailed to the instructor.**
- No extra credit work is available in this course.
- Cell phones must be turned off during class.
- The students must be respectful of the instructor and other students at all times, and must not engage in any disruptive activity.
- Extensions for completing assignments and exams are not permitted. An exception will be allowed for completing an exam late in the event of *dire circumstances*. It will be the responsibility of the student to submit proof that such dire circumstances occurred. Note: *dire circumstances* are defined as life threatening or serious illnesses, accidents, or other circumstances beyond your control. Vacations or trips or lack of preparedness for exams are not considered dire circumstances.
- Students are expected to have read and understood the "student's rights and responsibilities" policy of the College and will be held to the standards of student conduct as stated therein

Academic Honesty:

Please note student responsibility for upholding the Washtenaw Community College's academic honesty policy. This includes plagiarism of any kind, submitting the same work for more than one course, and all other forms of academic dishonesty. Failure to uphold this policy will result in a 0 for the assignment/exam and possible failure of the course and expulsion from the College.

Academic Accommodations:

If you need an academic accommodation because of a disability, please contact the instructor. Also, please make an appointment with a counselor in Learning Support Services (LA 104, 973-3342) to verify the disability and to arrange accommodations.

Assignments/Grading

The final grade in this course is based on the following:

- **10 Assignments (50 points ea.)**
  There will be 10 assignments due throughout the course. All assignments are web-based applications. **Assignments are due at 9am on the date specified,** must be published to the web server provided for the course, and the instructor will review your source code on that server.

  To reflect the realities of web programming, your assignments will be structured as projects that could be commissioned by actual clients, and will include specifications and price quotes. Each project should take 4-16 hours to complete. Your work is **not** expected to be aesthetically pleasing; appearance will not affect your grade.

  When grading, each assignment will start with 50 points and can lose points for the following:

  -5 points for each day late
  -2 points for each requirement unmet
  -50 points for plagiarism
  -1 point for each on-screen warning
  -5 points if the instructor can break your application (per instance)
  -5 points for undocumented code
  other subtracts may be specified per assignment

- **1 Time Log (50 points)**
  Using a spreadsheet, student will keep a log of total hours worked on each assignment. Due at the start of Session 15

- **1 Project Quote (50 points)**
  You will complete a project specification and quote for one fictitious application to be provided by the instructor. Assigned during Session 12 and due at the start of Session 14

- **1 Final Exam (200 points)**
  Your final exam will include questions and code completion.

Total: **800 points**

Grading Scale:

A	=	93 - 100%
A-	=	90 - 92%
B+	=	86 - 89%
B	=	83 - 85%
B-	=	80 - 82%
C+	=	76 - 79%
C	=	73 - 75%
C-	=	70 - 72%
D+	=	66 - 69%
D	=	63 - 65%
D-	=	60 - 62%

"Incomplete" grades are not an entitlement and are not favored by this instructor. "Real artists ship." — Steve Jobs. If you find that your assignment will not fulfill all requirements, it's better to turn in a working, non-complete product in this course than a late product. Grading has been designed to reinforce this.

Tentative Course Outline:

The Basics

Session 1 (1/16/2016)
The LAMP stack * working with servers * editing environments * PHP language structure
Reading: Ch. 1, 2 (all readings should be done after session and before next)

Session 2 (1/23/2016)
Variables * string functions * array functions * HTML * Apache request model
Reading: Ch. 7, 8, 9, 10, 11 (read 7,9,11 & skim 8,10)

Session 3 (1/30/2016)
Functions * Anonymous Functions * Sorting * Cookies * Sessions
Reading: Ch. 12, 13

Session 4 (2/6/2016)
Application Architecture * Libraries * APIs * REST * Exceptions
Reading: Ch. 15 (pp. 478-481), other sources to be provided

MySQL

Session 5 (2/13/2016)
MySQL basics * database structures * SELECT, INSERT, UPDATE, DELETE
Reading: Ch. 3, 4

Session 6 (2/20/2016)
Creating Tables * Column Properties * Indexing * Storage Engines * MySQL Functions * Encrypting Data
Reading: Ch. 16, 17

Winter Recess (2/27/2016)

Session 7 (3/5/2016)
Joining Tables * Query Optimization * Application Architecture II
Reading: Ch. 18

Developer's Toolkit

Session 8 (3/12/2016)
file I/O * Cron * Regular Expressions
Reading: Ch. 15, 22, 23

Object-Oriented Programming

Session 9 (3/19/2016)
Class Definitions * Properties * Methods * Constructors * Static Methods * namespaces
Reading: Ch. 14 (pp. 414-447)

Session 10 (3/26/2016)
Inheritance * Magic Methods * Interfaces
Reading: Ch. 14 (pp. 448-456)

Session 11 (4/2/2016)
Modern Concepts * MVC architecture
Reading: Ch. 5, and from this point we're beyond the book

Session 12 (4/9/2016)
Design Patterns

Advanced Topics

Session 13 (4/16/2016)
Security * Archiving Databases

Session 14 (4/23/2016)
Development Trends * Version Control * Agile * Unit Testing
Reading: Sources to be provided

Session 15 (4/30/2016)
Industry Trends * Jobs * Final Exam