Database Web Development
ITP 300 (3 Units)

Fall 2014
Section 31908R

Objective

In this class students will learn to build dynamic, database-driven web sites. They will learn how to structure content for Web sites in a database, and how to retrieve that data and manipulate and place it in pages.

Concepts

Students must first learn the basics of relational database management systems (RDBMS) and how to design and implement dbs. They will then learn the Structured Query Language (SQL) for communicating with databases. And students will learn and use the PHP scripting language to make SQL calls to databases and to flow those results into pages. They will also use PHP to create data interfaces, as well as to create basic conditional routines and other constructs that allow for dynamic sites. Students will use both MySQL Workbench and MySQL database platforms.

Prerequisites

ITP104 or JOUR412 or working (intermediate) knowledge of HTML and Web publishing.

Instructor	Yuanbo(Bo) Wang yuanbo@usc.edu
Office Hours	12pm – 2pm Thursdays
Grader	Cheng Li (cli539@usc.edu)
Lab Assistants	Jixin Liu (jixinliu@usc.edu) Kang Wang (kangwang@usc.edu)
Lecture / Lab	Thursdays 2:00 – 4:50 PM, KAP 267 *Please make an appointment ahead of time.*

Website

All course material will be on course website. URL TBA.

Grading

Grading will be based on lecture attendance, lab completion and participation, completed assignments and projects, midterm grades, and a major individual project.

Final grades will be determined as follows:

Quizzes, Assignments, and Projects	30%	
Participation, Attendance, Labs	15%	
Midterm Exam	20%	
Final Project	35%	
Total	100%	

Grading Scale

The following shows the grading scale to be used to determine the letter grade.

93% and above	A
90% - 92%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
67% - 69%	D+
63% - 66%	D
62% and below	F

Policies

Students are expected to:

Attend and participate in lecture discussions and critiques Attend and complete weekly lab quizzes, assignments and projects Manage and complete individual class projects.

Students are responsible for completing assignments and projects by stated deadlines. Most assignments will be uploaded by students to their USC Web space and linked from a class assignment page.

It is the responsibility of the student to make sure projects and assignment are turned in on time. Make sure you follow the procedures outlined in each assignment or project. Each student will maintain their own assignment page with links to all completed work in the course.

Late projects will receive 10% penalty per late day. No projects will be accepted later than one week from the due date. It is the responsibility of the student to contact the grader when posting late projects.

No make-up exams (except for documented medical or family emergencies) will be offered nor will there be any changes made to the Final Exam schedule.

You are required to save your labs using a USB flash drive or a website such as http://www.dropbox.com. You must keep a copy of all labs. You will not be able to save your

work on the ITP lab computers. If available, you will be given one USB flash drive from ITP.

ITP will have open lab hours starting the second week of the semester. The open labs will not have a lab assistant for this specific class. These lab times are there in case you need extra time to complete a lab.

A roster will be passed around the room during each lecture session. Please sign-in for the appropriate week.

Incomplete and Missing Grades

Excerpts for this section have been taken from the University Grading Handbook, located at http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html. Please see the link for more details on this and any other grading concerns.

A grade of Missing Grade (MG) "should only be assigned in unique or unusual situations… for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points.

A grade of Incomplete (IN) "is assigned when work is no completed because of documented illness or other 'emergency' **occurring after the twelfth week** of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks)."

Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *Scampus,* the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor (or TA) as early in the semester as possible. DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through Friday. Website and contact information for DSP http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html (213) 740-0776 (Phone), (213) 740-6948 (TDD only), (213) 740-8216 (FAX) ability@usc.edu

Emergency Preparedness/Course Continuity in a Crisis

In case of emergency, when travel to campus is difficult, if not impossible, USC executive leadership will announce a digital way for instructors to teach students in their residence halls or homes using a combination of the Blackboard LMS (Learning Management System), teleconferencing, and other technologies. Instructors should be prepared to assign students a "Plan B" project that can be completed 'at a distance.' For additional information about maintaining your classes in an emergency, please access: http://cst.usc.edu/services/emergencyprep.html

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Course Outline
Note: Schedule subject to change

Week 1 – Aug 28
- Course introduction and overview.
- Web server and content workflow.

Assignment/Lab

Classpage (due W3 on 9/11).

Week 2 – Sep 04
- Database fundamentals, designing databases for web content, major db platforms, MySQL, working with MySQL Workbench.

Assignment/Lab

DB Schema (due W3 on 9/11).

Week 3 – Sep 11
- Introduction to Structured Query Language (SQL).
- Reading data with SELECT and WHERE.
- Views.

Assignment/Lab

SQL statements part 1 (due W4 on 09/18).

Week 4 – Sep 18
- SQL Review.
- Inserting, updating, and deleting records.
- Reformatting data.

Assignment/Lab

RVS DB schema & SQL statements part 2 (due W5 on 9/25).

Week 5 – Sep 25
- Introduction to PHP and PHPStorm.
- Introduction to PHP Scripting Language and basic tags.

Assignment/Lab

PHP output page (due W6 on 10/02).

Sports DB (due W6 on 10/02).

Week 6 – Oct 02
- PHP and MySQL (mysqli).
- Populating pages with content from db.

- Looping through queries.
- Conditional Statements.
- PHPMyAdmin.

Assignment/Lab
 Final project proposal (due W7 on 10/09).
 Displaying DB Queries (due W7 on 10/09).

Week 7 – Oct 09
- Designing record interfaces.
- Drill-down workflow.
- Creating dynamic web forms to view and insert content.

Assignment/Lab
 Dynamic forms, adding data (due W8 on 10/16).

Week 8 – Oct 16
- Validating data.
- Creating dynamic web forms to view, insert, and update content in databases.
- Exam preparation.
- Individual class projects.

Assignment/Lab
 Practice exam (due W9 on 10/23).
 Data validation (due W10 on 10/30).
 Schedule, add, edit, and delete (due W10 on 10/30).

Week 9 – Oct 23 – Midterm

Week 10 – Oct 30
- Introduction to object oriented programing.
- mysqli object-oriented interface.

Assignment/Lab
 TBA.

Week 11 – Nov 6
- Aggregate functions, sub-queries with PHP.
- Paginated Results.
- Sending emails from PHP.

Assignment/Lab
 SQL aggregate and sub-queries. Paginated results (due W12 on 11/13).

Week 12 – Nov 13
- Session and client variables.
- Includes, re-usable code, caching, variable scoping.

Assignment/Lab
     Login routine (due W13 on 11/20).

Week 13 – Nov 20
- Security issues, Emailing, Charting.
- TBA

Week 14 – Nov 27, University Holiday (Thanksgiving)
- No class.

Week 15 – Dec 04
- TBA

Dec 5 - Final Project submitted by 6 PM.

Day of Final
     Final Project presentations.