ITP 300: Database Web Development

Course Details: Database Web Development
http://www-rcf.usc.edu/~emond/itp300/
Fall 2006
Course 31852
3 units

Lecture and Lab: Wednesdays from 5 – 7:50 p.m. in OHE406

Instructor: Justin Emond
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Office Hours: Wednesdays after lecture in OHE406 and by appointment.

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Description: 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.

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 between databases and scripts on Web pages. And students will learn and use the Cold Fusion scripting language to make SQL calls to databases and to flow those results into pages. They will also use CF to create data interfaces, as well as to create basic conditional routines and other constructs that allow for dynamic sites.

Skills: Database fundamentals and basic design, Structured Query Language, Cold Fusion scripting language.

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

Recommended: General knowledge of and familiarity with databases. ITP204 or equivalent intermediate experience with scripting or programming.

Requirements: Students are expected to:

- Attend and participate in lecture discussions and critiques
- Complete weekly 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 posted to a directory named "itp300".

Academic Integrity: Student should be aware of the universities policies regarding student conduct, and in particular issues related to academic integrity:

> **http://www.usc.edu/dept/publications/SCAMPUS/governance/gov03.html**
> **http://www.usc.edu/dept/publications/SCAMPUS/governance/gov05.html**

Grading: Grading will be based on lecture attendance and participation, completed assignments and projects, midterm grades, and a final individual project.

Final grades will be determined as follows:

Weekly Quizzes, Assignments and Projects:	**30%**
Class Participation and Attendance:	**15%**
Examinations:	**20%**
Individual Final Project:	**35%**

Projects: 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.

Late projects will be credited for 93% of the total points. No projects will be accepted later than December 6th @ 3:00 PM.

Texts: The Cold Fusion MX Web Application Construction Kit, *Ben Forta*, Que, *2002*. (required)

Teach Yourself SQL in 10 Minutes, *Ben Forta*, SAMS, *2000*. (recommended)

Course Overview:

Week 1	Aug 23	DB	Course introduction and overview, Database fundamentals.
Week 2	Aug 30	DB, SQL	Designing databases for web content. Introduction to Structured Query Language. Reading data with SELECT and WHERE.
Week 3	Sep 6	SQL	SQL Review. Inserting, updating and deleting records. Views. Reformatting data.
Week 4	Sep 13	CF	Introduction to CF. Setting up data sources. Introduction to Cold Fusion Scripting Language

DB = Database, SQL = Structured Query Language, CF = Cold Fusion

and basic tags.

Week 5	Sep 20	SQL, CF	Using CFQUERY and SQL to communicate with databases. Populating pages with content from databases. Looping through queries. Conditional statements.
Week 6	Sep 27	SQL, CF	Creating dynamic Web forms to view, insert and update content in databases.
Week 7	Oct 4	CF, GUI	Validating data. Designing record interfaces.
Week 8	Oct 11	CF	Different techniques for passing variable information. Establishing default values. Multiple-page result sets.
Week 9	Oct 18	CF, SQL	Midterm preparation. Individual class projects.
Week 10	Oct 25	SQL, CF	Midterm.
Week 11	Nov 1	CF	Advanced variable scopes. Security. Re-usable code.
Week 12	Nov 8	SQL, CF	SQL aggregate functions. CF sub-queries.
Week 13	Nov 15	DB, CF	Advanced application framework with Coldfusion.
Week 14	Nov 22	DB, CF	Reporting. Development process.
Week 15	Nov 29	DB, CF	Enterprise Databases. Stored Procedures. CF wrap-up. Hosting issues.
Final	Dec 1		Final projects due by 6 p.m.
Final	Dec 6		Student presentations of final projects On Wednesday from 4:30 – 6:30 p.m. in OHE406

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