

# ITP 300: Database Web Development

<b>Course Details:</b>	Database Web Development <i><a href="http://www-rcf.usc.edu/~emond/itp300/">http://www-rcf.usc.edu/~emond/itp300/</a></i> <i>Spring 2007</i> <i>Course 31874</i> <i>3 units</i>
<b>Lecture and Lab:</b>	Tuesdays from 5 – 7:50 p.m. in OHE542
<b>Instructor:</b>	Justin Emond emond@usc.edu AIM: justinpemond
<b>Office Hours:</b>	Tuesdays after lecture in OHE542 and by appointment.
<b>TA:</b>	TBD
<b>Description:</b>	<p>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.</p> <p>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.</p>
<b>Skills:</b>	Database fundamentals and basic design, Structured Query Language, Cold Fusion scripting language.
<b>Prerequisites:</b>	ITP104 or JOUR412 or working (intermediate) knowledge of HTML and Web publishing.
<b>Recommended:</b>	General knowledge of and familiarity with databases. ITP204 or equivalent intermediate experience with scripting or programming.
<b>Requirements:</b>	Students are expected to: <ul style="list-style-type: none"><li>• Attend and participate in lecture discussions and critiques</li><li>• Complete weekly labs, assignments and projects</li></ul>

- 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 the class server and posted to a directory named for the assignment.

**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:*

<i>Weekly Labs, Assignments and Projects:</i>	<b>30%</b>
<i>Class Participation and Attendance:</i>	<b>15%</b>
<i>Examinations:</i>	<b>20%</b>
<i>Individual Final Project:</i>	<b>35%</b>

**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 90% of the total points. No projects will be accepted later than May 8<sup>th</sup> @ 3:00 PM.

**Texts:**

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

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

**Course Overview:**

Week 1	Jan 9	DB	Course introduction and overview, Database fundamentals.
Week 2	Jan 16	DB, SQL	Designing databases for web content. Introduction to Structured Query Language. Reading data with SELECT and WHERE.
Week 3	Jan 23	SQL	SQL Review. Inserting, updating and deleting records. Views. Reformatting data.
Week 4	Jan 30	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	Feb 6	SQL, CF	Using CFQUERY and SQL to communicate with databases. Populating pages with content from databases. Looping through queries. Conditional statements.
Week 6	Feb 13	SQL, CF	Creating dynamic Web forms to view, insert and update content in databases.
Week 7	Feb 20	CF, GUI	Validating data. Designing record interfaces.
Week 8	Feb 27	CF, SQL	Midterm preparation. Individual class projects.
Week 9	Mar 6	SQL, CF	Midterm.
	Mar 13		No class; spring recess
Week 10	Mar 20	CF	Different techniques for passing variable information. Establishing default values. Multiple-page result sets.
Week 11	Mar 27	CF	Advanced variable scopes. Security. Re-usable code.
Week 12	Apr 3	SQL, CF	SQL aggregate functions. CF sub-queries.
Week 13	Apr 10	DB, CF	Advanced application framework with Coldfusion.
Week 14	Apr 17	DB, CF	Reporting. Development process.
Week 15	Apr 24	DB, CF	Enterprise Databases. Stored Procedures. CF wrap-up. Hosting issues.
Final	Apr 27		Final projects due by 6 p.m.
Final	May 8		Student presentations of final projects On Tuesday from 4:30 – 6:30 p.m. in OHE542