INF 385M   →   Syllabus

Course Syllabus

This course, INF 385M will enable you to:

- design database schemas for efficient data representation
- implement database schemas using MySQL
- create functional Web pages and forms using HTML
- create interactive PHP Web-pages that display information from a database and modify the content of the database
- discuss significant issues in database management and ask the right questions when working with database administrators and software designer

There are no prerequisites for this course; it is appropriate even if you've never done any programming or behind the scenes work with computers. If you do have significant, recent, experience or training with programming and databases this is not the course for you. In this case I **require** you to drop the course and welcome you to audit parts that you think will extend your knowledge.

While there are no prerequisites, the projects you will build will require an understanding of HTML, including tables. You will also need to know how to move HTML files up to the project server. Since our time is limited we will not be covering HTML or moving files in detail in class (although we will *briefly* review HTML forms). So, if you do not have a good working grasp of HTML you will be required to attend the "Bootcamp" offered by the iSchool IT group through their **Short Courses (https://www.ischool.utexas.edu/technology/instruction/short_courses.php)** . The date for this is still being decided but will most likely be on a weekend around the third or fourth week of the semester. I will make an announcement when the date is decided.

You will need an iSchool account for this course. iSchool students will have this already, non-iSchool students need to **obtain one through iSchool IT (https://www.ischool.utexas.edu/accounts/)** .

Your projects will not be graded on the basis of design or presentation, just functionality and database design. However, many students wish to use the projects in their portfolios, if that is the case I encourage you to make the effort in design. In this case you will also want to take the CSS bootcamp.

Professor

This course is taught by James Howison. My office is UTA 5.404. My office hours are by appointment by email: jhowison@ischool.utexas.edu . Please don't hesitate to set up a time to follow up on class material.

The TA for this class is Daniel Carter, an iSchool PhD student.

Class Meetings

The class meets Tuesdays 9am through 11.45am in the iSchool computing lab classroom (UTA 1.210A, although the first class meets in UTA 1.502). You are expected to attend every class. If you cannot attend you must let me know in advance.

Review sessions

At points in the semester the material can be quite dense and it is vital not to fall behind. To this end we will have regular review sessions, some in regular class times, others held on Thursdays at a time to be determined in the first week of class (an attempt to match your schedules as far as possible). These sessions will provide guided exercises, parallel to that week's homework, to reinforce skills. They will largely be lead by the course TA, although the professor will attend if numbers are high to ensure opportunities for individual learning. Please check your work and other class schedule and have a time to propose in week 1 to ensure that you will be available for these sessions, since opportunities to meet for individual instruction outside these sessions are limited.

Computing resources

The vast majority of this class happens on the class server, so really we'll just be editing text files and uploading them from the local computers. I will be teaching using the Mac computers in the lab. This is primarily for a consistent experience for the class in the choice of text editor and uploading files to the server. You are welcome to use your own laptop or windows computer, but I won't be able to stop to help you with those.

Course Texts

Recommended Texts:

Forta, B. (2005). *MySQL Crash Course*. Sams. **Link at Amazon.**   **(http://www.amazon.com/MySQL-Crash-Course-Ben-Forta/dp/0672327120)**

Churcher, C. (2012). *Beginning Database Design: From Novice to Professional* (2nd ed.). Apress. **Link at Amazon.** **(http://www.amazon.com/Beginning-Database-Design-Novice-Professional/dp/1430242094/ref=sr_ob_1?s=books&ie=UTF8&qid=1346352056&sr=1-1)**
(Note that the first edition version is also fine.)

Neither book is required but both are useful.

Other resources

There is an abundance of free tutorials on both MySQL and PHP available online. Some of them are good, and many assume a different level of starting knowledge than we will in this course. There are also many books available, including online through the UTexas library.

The w3schools tutorials on both **MySQL** **(http://www.w3schools.com/sql/)** and **PHP** **(http://www.w3schools.com/php/)** are useful and recommended. When looking at others, especially when it comes to PHP, keep in mind that there are many different ways to do the things we're going to do in class and any given tutorial might teach a different method (which will either be great and extend your knowledge or be confusing).

An advanced reference guide for MySQL that's available online at UT is:

Reese, G., & Ebooks Corporation Limited. (2009). *MySQL Pocket Reference SQL Functions and Utilities* (2nd ed.). Sebastopol: O'Reilly Media, Inc. **UT online link (http://www.utxa.eblib.com/patron/FullRecord.aspx?p=443454)**

Weekly Assignments

There are assignments due weekly for this course. They are due 11.59 pm on the Friday following class. Late assignments will receive zero. The assignments, and grading rubric, will be released on Canvas during class, so we'll go over the assignment and ensure everyone knows what's required. I recommend setting time aside each week, ideally on Tuesday afternoon/evening or Wednesday to do your assignment, that way you'll know quickly if you have trouble and can attend the Thursday review session. Each assignment will be turned in online, usually by uploading a PDF or Text file, and/or providing a URL to your assignment on the class server.

Project

A major portion of the course is producing a working, database backed website. You'll work through designing the data model and use cases, creating the database and creating an interface, written in PHP, that allows you to create, display, edit and delete database records. This work will be done in groups of 3 or 4 people and will unfold throughout the semester. Take a look in the Project section of the Assignments for the elements, taking you from ideas, to designs, to prototypes and finally to working projects. I encourage you to make your prototype as great as possible since trying to fit it all into the last two weeks is a recipe for stress and not meeting your own expectations.

Schedule

Below is the class schedule, including links to the assignments (those are bolded).

Date	Day	Details	
Jan 15	Tue	**Class 1: Intro and Card Exercise (https://utexas.instructure.com/calendar?event_id=759803&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)**	9am t 11:45ar
Jan 22	Tue	**Class 2: Questions and ER Diagrams (https://utexas.instructure.com/calendar?event_id=759802&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)**	9am t 11:45ar
Jan 25	Fri	**ER Diagram for Bookstore**	due by 11:59pm
		Project Ideas	due by 11:59pm
Jan 29	Tue	**Class 3: MySQL and phpmyadmin (https://utexas.instructure.com/calendar?event_id=759790&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)**	9am t 11:45ar
Feb 1	Fri	**From ER to Database**	due by 11:59pm
Feb 5	Tue	**Class 4: SQL queries I (https://utexas.instructure.com/calendar?event_id=759801&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)**	9am t 11:45ar

Feb 8	Fri	**Reverse engineer design and basic queries**	due by 11:59pm
Feb 12	Tue	**Review Session** (https://utexas.instructure.com/calendar? event_id=782987&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Feb 15	Fri	**Group project paragraph**	due by 11:59pm
Feb 19	Tue	**Class 5: SQL Queries II** (https://utexas.instructure.com/calendar? event_id=759800&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Feb 26	Tue	**Review Session** (https://utexas.instructure.com/calendar? event_id=782989&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Mar 1	Fri	**Advanced Queries**	due by 11:59pm
Mar 5	Tue	**Class 6: Sub-queries, Indexes** (https://utexas.instructure.com/calendar? event_id=759798&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Mar 8	Fri	**User stories**	due by 11:59pm
Mar 17	Sun	**Project Database Design**	due by 11:59pm
Mar 19	Tue	**Class 7: Intro to commandline and php** (https://utexas.instructure.com/calendar? event_id=759797&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Mar 21	Thu	**Review Session** (https://utexas.instructure.com/calendar? event_id=782997&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	3pm to 5pm
Mar 26	Tue	**Class 8: PHP branching and looping** (https://utexas.instructure.com/calendar? event_id=759796&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Mar 28	Thu	**Review Session** (https://utexas.instructure.com/calendar? event_id=782999&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	3pm to 5pm
Mar 29	Fri	**Guessing Game**	due by 11:59pm
Apr 2	Tue	**Class 9: PHP: arrays and looping** (https://utexas.instructure.com/calendar? event_id=759795&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Apr 4	Thu	**Review Session** (https://utexas.instructure.com/calendar? event_id=783000&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	3pm to 5pm
Apr 5	Fri	**Selecting performances**	due by 11:59pm
Apr 9	Tue	**Class 10: Connecting PHP and MySQL** (https://utexas.instructure.com/calendar? event_id=759794&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Apr 11	Thu	**Review Session** (https://utexas.instructure.com/calendar? event_id=783001&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	3pm to 5pm

Apr 16	Tue	**Class 11: Functions and Libraries** (https://utexas.instructure.com/calendar?event_id=759793&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Apr 19	Fri	**Project Site Draft**	due by 11:59pm
Apr 23	Tue	**Class 12: Project Consulting** (https://utexas.instructure.com/calendar?event_id=759792&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
Apr 30	Tue	**Class 13: Project Presentations** (https://utexas.instructure.com/calendar?event_id=759791&include_contexts=course_915102#7b2273686f77223a2267726f75705f636f757273655f393135313032227d)	9am t 11:45ar
		Project Presentation	due b 9ar
		Project Site and Report	due b 9ar
	Other	**Extra PHP exercises**	
		Extra Queries	