

**LIS 569 – Database Systems  
Spring 2012, Dr. Jianqiang Wang  
General Course Information**

**Instructional Staff**

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**Schedule**

Class/Lab sessions	Instructor Office Hours	TA Office Hours
1:00PM – 3:40PM, Wed.	12:00PM – 1:00PM, Wed. 4:00PM – 5:00PM, Wed.	2:00PM – 4:00PM, Thu.

Students are also encouraged to set up appointments with the instructor or the TA via email for meetings outside of the specified office hours.

**Textbook & Readings**

- Required: *Modern Database Management, Tenth Edition*, Jeffrey A. Hoffer, V. Ramesh, and Heikki Topi, ISBN-10 0-13-608839-2, ISBN-13 978-0-13-608839-4, Prentice Hall
- Recommended: *PHP and MySQL for Dynamic Web Sites: Visual QuickPro Guide, Fourth Edition*, Larry Ullman, ISBN-10: 0321784073, ISBN-13: 9780321784070, Peachpit Press

**Official Catalog Description**

This course covers basic concepts of management and organization of information using databases. The course includes an examination of relational database theory and techniques such as entity-relationship modeling, normalization, view integration, report generation, interface design, and Web-database integration. Through this course students will gain working knowledge of modeling, design, and implementation of relational database systems using MySQL, PHP, and MS Access.

**Course Goals**

The main objective of this course is to help students gain a theoretical knowledge and practical experience in designing databases for efficient organization and retrieval of

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digital information. Lectures, labs, homework assignments, and discussions are designed to help students:

- Understand the theoretical basis of relational databases;
- Understand how design decisions affect data management and retrieval;
- Learn the principles and methodologies for database design;
- Learn the basics of placing user-accessible databases on the Web;
- Become skillful in using some of the popular database management tools.

## Prerequisites

Students should have successfully completed LIS506 - Introduction to Information Technology before taking this course. Exceptions of the prerequisite could be granted by the instructor on a case by case basis.

## Methods

The course will be delivered through lectures, lab exercises, discussions, homework assignments, quizzes, and projects. Each class usually consists of a lecture session followed by a lab exercise session.

Course materials will be made available in UBLearn; student works will also be submitted through it (unless instructed otherwise). On average, a student will spend 9 hours per week on the course.

## Grading

Your grade will be assigned based on your performance on homework assignments, quizzes, an individual project, and participation, as follows:

Component	Percentage	Notes
Homework Assignments	30%	5% each
Quizzes	15%	5% each
Project	40%	Development and presentation
Participation	15%	Attending classes and completing lab exercises

The final grade will be computed by combining the score of each item in the above table. The conversion from a score grade (S) to a letter grade (L), which is what will be reported to the university, will follow the rules listed below:

Score (S)	$S \geq 94$	$94 > S \geq 90$	$90 > S \geq 87$	$87 > S \geq 83$	$83 > S \geq 80$
Letter (L)	A	A-	B+	B	B-
Score (S)	$80 > S \geq 77$	$77 > S \geq 70$	$70 > S \geq 60$	$S < 60$	
Letter (L)	C+	C	D	F	

The grade of A signifies superior work beyond basic requirements of the course, B signifies adequate work in response to the requirements, and C and below signifies that work does not meet the basic requirements.

### **Homework Assignments**

There will be six homework assignments throughout the semester, each assigned bi-weekly prior to the due date. The main purpose of the homework assignments is for students to consolidate what they have learned from the class and the readings. Students are encouraged to work together on homework assignments. However, each student has to write his/her own answers. The description of each homework assignment can be found in the “Assignments” section on UBLearn.

### **Quizzes**

There will be three quizzes for the course scheduled in Week 6, 10, and 14, respectively. These quizzes will cover topics that you’ve learned by the quiz week. All quizzes will be held in class, timed, and in the form of open-book.

### **Individual Project**

Each student will work on a project of designing and implementing a database-driven system. The topic of the project and its detailed requirements will be announced by the instructor by Week 3. Each student will demonstrate his/her completed database system in Week 15. There will not be a final report required for the project as its focus is on the implementation of a working database system. However, by Week 15 everyone should have his/her database system finalized.

### **Participation**

This includes attending classes and completing lab exercises. Throughout the semester, we will practice all sorts of database and programming exercises with or without using computers. Students are required to complete all the exercises and strongly encouraged to actively participate in discussion during lecture sessions as well as lab sessions. Sometimes, you may find necessary to continue to practice these exercises outside of the classroom. However, that should not be taken as a reason of missing classes and lab sessions.

### **Administrative rules**

Homework assignment format and submission Unless otherwise specified, all your homework assignments, project proposals, and project reports must be submitted electronically through UBLearn. Pay close attention to specific requirements for each homework assignment. The format of your project proposal and report is described in “Project Description” section.

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Late submission of coursework Due to extreme causes (such as illness or accident injury), late homework assignments and makeup quizzes can be accommodated if supporting documents (such as a doctor appointment/examination slip) are provided to the instructor; late submission due to less extreme causes (such as breakdown of your home computer, busy work schedule, etc.) will be accepted only if the submission is no later than one week. In this case, a 10% reduction of grade will be applied. There will be no makeup quiz if it is due to less extreme causes. Coursework submitted after April 25 will not be graded and hence receive no credit.

Incomplete grades may be granted in cases of illness or other difficult circumstances. An Incomplete grade must be requested in writing by the student through filing a "Request for Grade of Incomplete" form (available at [http://gse.buffalo.edu/gsefiles/documents/departments/Incomplete\\_Grade\\_Request.doc](http://gse.buffalo.edu/gsefiles/documents/departments/Incomplete_Grade_Request.doc)). The form must be received by the instructor by April 25.

Academic integrity. It is expected that every student will behave in an honorable and respectful way as you learn and share ideas. All work for this class must be original for this class. Work submitted to other courses or completed as part of your job responsibility generally cannot be submitted to fulfill the requirement of this course. Please be familiar with the University and the School policies regarding plagiarism. Read the Academic Integrity Policy and Procedure at [http://www.grad.buffalo.edu/policies/academic\\_integrity.pdf](http://www.grad.buffalo.edu/policies/academic_integrity.pdf) for more information.

Special accommodation. Any student with a disability that will require accommodation under the terms of federal regulations must present an accommodation request to the Office of Disability Services (<http://www.ub-disability.buffalo.edu/>). Unless a letter from that office is received by the instructor, no special assistant or treatment (e.g., extending homework deadlines) will be provided.

## Weekly Topics, Labs, Readings, and Deadlines

Week	Days	Topics	Labs	Readings	Due
1	1/18	Course Overview		Hoffer c1	
2	1/25	Data Modeling (I)	Creating ERDs	Hoffer c2	
3	2/1	Data Modeling (II)	Creating ERDs	Hoffer c3	
4	2/8	Logical DB Design (I)	Creating normalized relations	Hoffer c4	HW1
5	2/15	Logical DB Design (II)	Creating normalized relations	TBD	
6	2/22	<b>Quiz I</b> Physical DB Design		Hoffer c5	HW2
7	2/29	Introduction to SQL	Practicing SQL	Hoffer c6	
8	3/7	Advanced SQL	Practicing SQL	Hoffer c7	HW3
9	3/14	No class (Spring Recess)			
10	3/21	Introduction to MySQL	Implementing MySQL DBs	Ullman c4 Ullman c7	
11	3/28	<b>Quiz II</b> Introduction to PHP	Programming with PHP	Ullman c1 Ullman c2	HW4
12	4/4	Interface design and implementation	Programming with PHP and HTML	Ullman c3	
13	4/11	Web-Database Integration	Creating and Accessing Web-based MySQL DBs	Ullman c9 Ullman c10	HW5
14	4/18	<b>No class</b> (instructor out of town)			
15	4/25	<b>Quiz III</b> DB Administration		Hoffer c11	HW6
16	5/2	Project Demonstration			Working system

