



FLORIDA STATE UNIVERSITY
COLLEGE OF COMMUNICATION & INFORMATION
School of Information

LIS5782 – DATABASE MANAGEMENT SYSTEMS (3 credits)

SECTION(S)

TERM 20XX, COURSE MEETING DAY/TIME, COURSE MEETING LOCATION

MODE OF INSTRUCTION: ONLINE

Students all meet with instructor for class weekly, synchronously, using a multi-media conferencing system such as Collaborate, at a specific class time indicated in the University's course schedule for each semester. Additional asynchronous interactions among students and with instructor will be required, as indicated below in course evaluation and assessments, to complete the course.

Instructor: Z. He

Email:

Office:

Phone:

Course Location/Website:

Office Hours (in office, online or via phone):

Teaching Assistant:

Email:

COURSE DESCRIPTION:

LIS 5782 is an introductory database course appropriate for students who have basic knowledge about information organization. Although several database models are briefly presented, the course focuses on the relational model, the basis for most currently installed production database management systems (DBMS). The course covers the principles of database design and implementation including relational concepts, data modeling, conceptual and logical database design, use of SQL as a data- manipulation language, and current issues in database administration.

COURSE OBJECTIVES:

At the end of the course, the student will be able to:

1. summarize the advantages/disadvantages of the relational model in resolving users' needs for storing, organizing, accessing, and protecting data;
2. explain relational theory as the conceptual basis for relational database management systems;

3. analyze organizational artifacts to identify entities, attributes, relationships, and constraints;
4. create an entity-relationship diagram in Universal Modeling Language (UML);
5. develop a normalized schema from an entity-relationship diagram
6. construct an operational database in a database management system; and
7. write SQL statements for data manipulation, retrieval, and organization.

COURSE MATERIALS:

Required Text

Connolly, T.M. and C.E. Begg. 2014. *Database Management Systems: A Practical Approach to Design, Implementation, and Management*. 6th edition. Addison-Wesley. ISBN 978-0-132-94326-0. The 5th edition is fine to use, but the chapter & section headings given in the course calendar are for the 6th edition.

Required Instructional Technologies

1. iSchool Hardware and Software Requirements - A list of all hardware and software requirements for students participating in the School of Information (iSchool) courses can be found at the following location: <http://ischool.cci.fsu.edu/academics/online/requirements/>
2. Database management software: Microsoft Access 2007 or more recent – no substitutions.
 - ◆ It is part of some versions of Microsoft Office for PCs so you may already have it.
 - ◆ It is available free through DreamSpark (Microsoft). If you don't already have a DreamSpark userid and password, contact the College of Communication and Information (CCI) Help Desk (helpdesk.cci.fsu.edu) after the 1st week of class.
 - ◆ If you use a Mac, you can use Virtual PC, Virtual Box, Bootcamp, or Parallels to run Access. You can also use CCI Remote Labs (<https://labs.cci.fsu.edu/>) to use Access.
 - ◆ *Access Resources* (Course site menu --> Syllabus & Reference) is an annotated list of print and online materials to help you with using Access.

COURSE ASSIGNMENTS AND EVALUATION:

PROJECTS:

- **Project 1 – ERD**
 - An entity-relationship diagram (data model) in UML representing the client data submitted as a Word (or compatible) document.
- **Project 2 – Schema**
 - The set of relations derived from the client ERD and normalized to 3NF submitted as a Word (or compatible) document.
- **Project 3 – Database**
 - The client database, the tables of which are in 3NF, submitted as an Access file.
- **Project 4 – SQL Statements**
 - A set of SQL statements submitted in the provided Access database.

PROBLEM SETS:

The problem sets usually include time-consuming tasks (*e.g.*, analyses of data tables, interpretation of ERDs) thus it would be wise to start them early. Problem sets:

- ◆ are administrated online in the course management system
- ◆ become available for 1 week before the due date;
- ◆ are “open book” so that you can consult any resources you like;
- ◆ are multiple-choice;
- ◆ can be attempted three times and the highest grade is used as the final grade;
- ◆ are automatically graded upon submission.

PRACTICE TASKS (Optional):

There are 11 practice tasks in this course. You will be required to submit 7. Details about the tasks can be found in their respective assignment page. The PTs provide the opportunity to see if you are on the right track and the GB materials provide examples of how the projects should be done, thus what you submit is what will be graded. The grade will be primarily based on whether you complete the PT with reasonable effort or not, not on the actual correctness of the work.

GRADE CALCULATION:

Item	Percentage Value
Student Profile	0
Project 1	12.5%
Project 2	25%
Project 3	25%
Project 4	25%
Problem Set 1	12.5% (Only the highest 5 scores will be included)
Problem Set 2	
Problem Set 3	
Problem Set 4	
Problem Set 5	
Problem Set 6	
Total:	100%

GRADING SCALE:

Letter grades will be assigned according to the following scale:

A 93 – 100	A- 89 – 92
B+ 85 – 88	B 81 – 84
B- 77 – 80	C+ 73 – 76
C 69 – 72	C- 65 – 68
D+ 61 – 64	D 57 – 60
D- 53 – 56	F 0 – 52

COURSE SCHEDULE:

WEEK	TOPICS TO BE COVERED
1	Introduction to course operations & to databases
2	Database design
3	Conceptual DB design - Entities, relationships & attributes
4	Conceptual DB design - ERD
5	Logical DB design - Mapping models to relations
6	Logical DB design – Normalization I - Update anomalies & functional
7	Logical DB design – Normalization II – Normal forms (NF)
8	SQL – Single-table statements
9	SQL – Functions and predicates
10	SQL – Subqueries
11	SQL – Introduction to joins
12	SQL – Simple inner joins
13	SQL - Complex inner joins
14	SQL - Outer joins
15	Database Security & Advanced Database Topics
16	Exam week

SCHOOL POLICIES:**Copyright Statement**

Some of the materials in this course are possibly copyrighted. They are intended for use only by students registered and enrolled in this course and only for instructional activities associated with, and for the duration of, the course. They may not be retained in another medium or disseminated further. They are provided in compliance with the provisions of the Technology, Education, And Copyright Harmonization (TEACH) Act (refer to the 3/7/2001 TEACH Act at www.copyright.gov/legislation/archive/).

Sexual Harassment Policy

It is the policy of the University that its employees and students neither commit nor condone sexual harassment in any form. http://registrar.fsu.edu/bulletin/graduate/information/university_notices/

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Student Eligibility for an Incomplete Grade

Incomplete (“I”) grades will not be assigned, except in the case of exceptional unforeseen circumstances that occur within the last three weeks of the semester and your work has otherwise been satisfactory.

UNIVERSITY POLICIES:**University Attendance Policy:**

Excused absences include documented illness, deaths in the family and other documented crises, call to

active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy:

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

Americans With Disabilities Act:

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Student Disability Resource Center; and
- (2) bring a letter to the instructor indicating the need for accommodation and what type.

Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Student Disability Resource Center has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
<https://dos.fsu.edu/sdrc/>

Syllabus Change Policy

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.