LIS5782 – DATABASE MANAGEMENT SYSTEMS
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:
Email:
Office:
Phone:
Course Location/Website:
Office Hours (in office, online or via phone):
Teaching Assistant:
Email:

COURSE DESCRIPTION:
 LIS 5782 is an introductory course appropriate for students with no experience in database management systems and with no knowledge of Structured Query Language (SQL). 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. 2010. *Database Management Systems: A Practical Approach to Design, Implementation, and Management.* 5th edition. Addison-Wesley. ISBN 978-0-321-52306-8. The 6th edition (2015; ISBN 978-0-132-94326-0) is fine to use, but the chapter & section headings given in the course calendar are for the 5th edition.

- New and used (5th edition) print copies and e-book versions are widely available online to rent or buy.
- AllBookstores (www.allbookstores.com) has a price comparison tool that gives format, availability, and shipping time/costs for many online bookstores.

Required Grace Brothers (GB) Worked Example and Optional Practice Tasks (PT)

(1) We use the GB material (Course site menu ---> Grace Brothers) throughout the term as a lab in which we experiment and as the raw material for PTs.
- These documents contain notes on best practices, solutions to common problems, and explanations of my reasoning behind the construction of the GB database. Database administrators approach tasks in different ways: I present my approach as an <u>example</u> of one way to do tasks. It is by no means the only right way!
- Some GB documents include examples of project formats.

(2) Practice Tasks (Course site menu ---> Practice Tasks) provide a hands-on way to master the course material.
- Attempting these gives you the chance to find out whether you really understand the concepts and can perform the tasks required to complete the projects <u>before</u> you put a grade at risk.
- Ask in class or on the GB & PT Forum for help with doing PTs.
- PTs are not required and are not graded.

(3) A crosswalk of concepts and skills, PT's, GB documents, and projects is posted with the Practice Tasks.

Required Instructional Technologies

(1) Hardware and software requirements for people enrolled in SLIS courses http://slis.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'll have to use Virtual PC, Virtual Box, Bootcamp, or Parallels to run 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**
  o An entity-relationship diagram (data model) in UML representing the client data submitted as a Word (or compatible) document.
- **Project 2 - Schema**
  o The set of relations derived from the client ERD and normalized to 3NF submitted as a Word (or compatible) document.
- **Project 3 - Database**
  o The client database, the tables of which are in 3NF, submitted as an Access file.
- **Project 4 – SQL Statements**
  o A set of SQL statements submitted in the provided Access database.

QUIZZES:

The quizzes usually include time-consuming tasks (*e.g.*, analyses of data tables, interpretation of ERDs) thus it would be wise to start them early. Quizzes:
◆ 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 accessed and changed repeatedly until the due date/time by clicking Save Answer or Save All Answers; and
◆ are automatically graded upon submission.

GRADE CALCULATION AND GRADING SCALE:

Item	Point Value
Student Profile	0
Project 1	50
Project 2	100
Project 3	100
Project 4	100

Course Grade Conversion	
Percentage	Grade
93-100%	A
90-92%	A-
87-89%	B+
83-86%	B

Quiz 1	Each quiz is worth 10 points. Only the highest 5 scores will be included for a quizzes total of 50 points.
Quiz 2	
Quiz 3	
Quiz 4	
Quiz 5	
Quiz 6	
Total number of points	**400**

80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
67-69%	D+
63-66%	D
60-62%	D-
<60%	F

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
16	Exam week

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/academic-resources/academic-integrity-and-grievances/academic-honor-policy.)

Plagiarism

Plagiarism of any type, including material from Internet sources, will not be tolerated. Cases of academic dishonesty such as plagiarism and cheating will be investigated & pursued vigorously according to departmental and (if needed) university procedures. Before submitting any work for this class, please read the "Academic Honor System" in its entirety (see link above) and ask me to clarify any of its expectations that you do not understand.

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
http://www.disabilitycenter.fsu.edu/

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 advanced notice.

SCHOOL OR DISCIPLINARY 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/

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/

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 (C average).