ISM 602 – Business Data Systems
Fall 05

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Office Hours: T-Th 9:30 - 10:30 Others by Appointment
Class Location: Bryan 204
Class Time: Th 6:30-9:20
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Catalog Description:
Fundamental concepts of database management systems, including database design, implementation, and the use of the SQL query language.

Course Objectives:
This is a course about data and its management. The design of files and databases and the use of database management systems are integral and critical parts of developing and using information systems. Today, virtually every information system will include the database design and implementation or the use of an existing database. After you have finished this course, you should have very good understanding about data and database management.

Specifically, the objectives of this course are twofold: 1) to provide an introduction to the design of relational databases through the use of Entity-Relationship Diagrams and Normalization procedures, and 2) to develop basic skills in the use of SQL in defining and creating a database, inserting and modifying entries in a table, and manipulating the database to produce useful decision making information for management. Upon successful completion of the course, you will be able to:

1. develop and implement a sound data model for a business data system;
2. design, implement a relational database;
3. use SQL to create complex queries;
4. identify various technologies available for organizational memory.

Relationship to other ISOM courses:
It is the philosophy of the ISOM department to help students develop an appropriate background and critical skills needed to function effectively in a global, technology-driven environment. Knowledge of database concepts, database design, implementation and uses is an integral part of achieving this goal. To succeed in this course, students must utilize the problem solving and critical reasoning skills that they have acquired as part of their education here at UNCG. The course, in turn, provides database design and implementation skills as well as other problem solving skills that students can use to succeed in their future academic and professional careers.

Recommended Text Books:
"Oracle SQL by Example," 3th Ed. Alice Rischert.
**Instructional Methods:**
This course will be delivered by mixing lectures with hands-on computer exercises. In most classes a conceptual/theoretical lecture will be given on a selected topic related to databases. In some classes, the lecture is followed by hands-on exercises. To enhance learning both elementary and advanced database issues, techniques and concepts covered in this course, we will rely on the textbooks, class lectures, class discussions, in-class exercises, and lab exercises. To further facilitate learning, each database topic covered in class maybe complemented with quizzes, exercises, other Q&A. Homework assignments and class projects challenge the student to apply the knowledge learned in class.

**Tests and Quizzes:**
We will have two exams and a number of quizzes. The quizzes would normally take about 15 to 30 minutes to complete and are given at the beginning of the class. Attendance on the date of tests and quizzes is MANDATORY. No make up examinations are offered for any reason. If a student must miss a test or a quiz and has a written verifiable legitimate excuse for the absence, the weight of that exam may be redistributed to other exams. This option is only available for one (and only one) test or quiz.

**Final Project:**
Each student is required to join a group of not more than three individuals. The groups will work on a final database project. Each group will be required to present its findings to the class at the end of the semester. More details about the case and the specifics of the presentation will be given during the course.

**Projects and Assignments:**
This course is what is called a project intensive course. It means that SQL programming assignments and database design projects constitute a major portion of the requirements for this course. You are required to complete a number of SQL query set assignments on a database that I will provide you. More details will be forthcoming during the course of the semester. Each assignment and database project is due at the beginning of the class on the scheduled due date. We will spend a few minutes discussing the concepts covered by the assignment and discuss different implementations of it. Students may not skip class to work on assignments. Excuses about the network, printers, or overcrowding in the labs, etc., will not be accepted. Please do not procrastinate on the assignments. The practice of meeting commitments is a fundamental obligation with meaningful consequences in a real work setting. There are no extra credit assignments.

**Attendance Policy:**
Each student is responsible for all the information and announcements that are made in class. Poor performance in this course is directly related to poor attendance. Students are expected to conduct themselves in a professional manner. A professional shows up for scheduled meetings prepared and on time. Any student missing the first two classes without notifying me will be administratively dropped from the course. Any student missing more than three classes (excused or not) may have their grade dropped by a letter grade.

**Oral and Written Communication Content:**
Information Systems involves a dynamic environment with constant attention to changes. Active study and discussions enhance the classroom learning. Students are encouraged and expected to come to class prepared to ask questions and to answer a few. Effective written communication is stressed through the required assignments. Furthermore, exams may include an essay question component.

E-Mail: Each student has been assigned a UNIX account by the IRC. Students will be expected to activate their UNIX accounts and to learn to use electronic mail.

**Ethical Perspectives:**
The ultimate goal of a database project is to be able to more effectively manage information in decision-making. The importance of ethical decisions will be addressed in many of the topics covered throughout the course.

**Global Perspectives:**
Globalization is a primary objective of the Bryan Business School. However, the discussion of globalization is beyond the scope of this course.

**Technology Applications:**
Technological advances in databases are addressed throughout the course.

**Demographic Diversity Perspectives:**
This course will not specifically address the issue of demographic diversity.

**Political, Social, Legal, Regulatory, and Environmental Perspectives:**
The political, social, legal and regulatory issues surrounding the ownership and use of data, and the users rights as they pertain to the database environment will be discussed.

**Ethical Issues and the Honor Code Policies:**
University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such illicit possession of examinations or examination materials, forgery, or plagiarism. Students will NOT make, borrow, or "share" copies of their lab assignments or files with other students. Plagiarism is defined as "presenting as one's own work that work which is, in whole or in part, the work of another person or persons without giving proper credit to the appropriate source." This includes submitting work done by another, as one's own work. It is understood that what you turn in to me for grade represents your own effort. Plagiarism will be immediately punished with a grade of zero for the assignment in question. Further disciplinary action will be pursued as I deem appropriate. Helping one another is allowed, but copying is cheating. This practice is against the UNCG Honor Code and defeats the purpose of this course. No credit will be received for shared work, and other penalties may be imposed. I will pursue cheating as far as the university allows me.

**Inclement Weather:**
Rarely, UNCG closes for inclement weather. The radio and TV stations will have the closing notification by 6:30 am. You may also call 334-5000 for a message related to weather closings. These messages are updated hourly.

**Grading:**
Grades for the course are based on tests and lab assignments. The course grade will be calculated using the following weights:

<table>
<thead>
<tr>
<th>GRADE CRITERIA</th>
<th>WEIGHT</th>
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<tbody>
<tr>
<td>Midterm</td>
<td>30%</td>
</tr>
<tr>
<td>SQL Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Project</td>
<td>20%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
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<table>
<thead>
<tr>
<th>Grading Scale</th>
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<tbody>
<tr>
<td>&lt;60 = F</td>
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<tr>
<td>60-62 = D-</td>
</tr>
<tr>
<td>63-66 = D</td>
</tr>
<tr>
<td>70-72 = C-</td>
</tr>
<tr>
<td>73-76 = C</td>
</tr>
<tr>
<td>77-79 = C+</td>
</tr>
<tr>
<td>80-82 = B-</td>
</tr>
<tr>
<td>83-86 = B</td>
</tr>
<tr>
<td>87-89 = B+</td>
</tr>
<tr>
<td>90-92 = A-</td>
</tr>
<tr>
<td>93+ = A</td>
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# Tentative Course Outline

(Please note: This course outline is a tentative outline, we will make every attempt to follow this outline. However, deviations from this outline may become necessary)

<table>
<thead>
<tr>
<th>Week</th>
<th>TOPICS</th>
<th>REFERENCE/ASSIGNMENTS</th>
</tr>
</thead>
</table>
| Aug 18 | Introduction  
Database Design  
E/R diagramming | Database Design Handout  
Rischert CH 1 pp. 1-49 |
| Aug 25 | Database Design Continued | Data Modeling Project |
| Sep 1 | Intro to SQL  
CREATE, SELECT, ORDER BY  
WHERE  
SQLPlus commands | Oracle SQL handout Lessons 1-4  
Rischert Ch 2 and 11 |
| Sep 8 | Functions, Dates  
Group functions | Handout Lessons 5,6  
Rischert Ch 3, 4, 5 |
| Sep 15 | Midterm  
GROUP BY  
HAVING  
Joins | Handout Lessons 7,8  
Rischert Ch 6,7 |
| Sep 22 | Insert/Update/Delete  
Transaction Processing | Handout Lesson 9,10  
Rischert CH 9,10  
SQL Homework |
| Sep 29 | Views  
Sequences  
Altering Constraints  
Indexes | Handout Lessons 11-14  
Rischert CH 12 |
| Oct 6 | FINAL EXAM | |