Course Description

This course is designed to provide an overall understanding of the design and implementation of multi-user relational database management systems. Use of stored procedures, advanced SQL, transaction processing, and DBMS information assurance will be among the topics covered. Additional topics may include query optimization and database administration.

A database design and manipulation project will be undertaken using a database management system like MySQL in order to allow the student to develop a fuller understanding of database usage.

Topic List

- Relational Database Design
- Entity-Relationship Model
- Normalization
- Relational Algebra
- SQL
- Creating and Manipulating a MySQL Database
- Transactions
- PHP Applications
- Stored Procedures & Triggers
- Concurrency Control
- Distributed Database Systems
- Views
- SQL Injection Attacks
Course Objectives

- The student will be able to list and explain the fundamental concepts of a relational database system.
- The student will be able to utilize a wide range of features available in MySQL.
- The student will be able to analyze database requirements and determine the entities involved in the system and their relationship to one another.
- The student will be able to develop the logical design of the database using data modeling concepts such as entity-relationship diagrams.
- The student will be able to create a relational database using a relational database package.
- The student will be able to manipulate a database using SQL.
- The student will be able to assess the quality and ease of use of data modeling and diagramming tools.
- The student will be able to list and explain the fundamental concepts of triggers and stored procedures.
- The student will be able to define transactions in SQL.
- The student will be able to manipulate a database using PHP.
- The student will be able to assess the quality and ease of use of a real multi-user database.
- The student may be introduced to database administration, optimization, and performance tuning.

Make-Up Quizzes or Exams

No make-up exams or quizzes will be given, regardless of the reason for absence. Instead, a comprehensive exam will be given at the end of the semester to those students who have missed an earlier exam. The grade on the comprehensive exam will replace at most one zero score for a missed exam. It may be possible to make arrangements to take an exam early if there is a valid reason.

In order to reduce absences, no make-ups will be given, regardless of the reason for absence.

Assignments/Projects

Assignments and projects that are not submitted on the due date will be subject to grading penalties of 20% per day. Assignments and projects cannot be graded until all students have submitted their work, so prompt submission is essential. Once assignments have been graded, late submissions will not be accepted.

Group Project

Your course grade will depend heavily on a group project. In order to insure equal participation in the project each group member will be required to complete and submit a Peer Evaluation.

Peer Evaluation

Since work is not done individually, peer evaluations will be used. The members of your project team may not all receive the same project grade. While grades are assigned to the overall project, each individual’s grade will be determined by weighting that project grade by the results of a confidential peer evaluation. Each team member will be required to assess the contributions of all members of the team with regard to the percentage contributed by each member toward the successful completion of all phases of the project, and the cumulative scores for each team member will be averaged.

For example, if the project receives a score of 90, and team member #1 is assessed an average contribution of 80% by all team members, then team member #1 will receive a project score of 72. On the other hand, if team member #2 worked diligently and received an average contribution percentage of 100%, then that team member will receive a score of 90.

Students must fill out and submit the peer evaluation form for each team member. Students who fail to submit evaluations may be assessed a penalty of one letter grade on their project score.

Graduate Credit

Students taking this course for graduate credit are required to do additional work. That work includes the graduate project.

Extra Credit

No extra credit will be given. Therefore, it is important to begin the semester with the knowledge that exams and assignments will constitute your entire grade.
Academic Integrity

Academic integrity is expected at Idaho State University and the College of Business. All forms of academic dishonesty, including cheating and plagiarism, are strictly prohibited, the penalties for which range up to permanent expulsion from the university with “Expulsion for Academic Dishonesty” noted on the student's transcript. If you are unclear as to what constitutes academic dishonesty, read the College of Business Policy on Academic Integrity and the ISU Student Code of Conduct.

Some examples of dishonest behavior include, but are not limited to:

- Copying material from a source without attributing the source.
- Allowing another student to copy your work and then submit it as his/her own.
- Allowing someone else to complete your assignments for you and then passing off the work as your own.
- Bringing unauthorized material or devices to an exam. Note that you do not have to be caught using them – just having them is an offense.
- Copying from another student's exam.
- Communicating with someone other than the professor during an exam.
- Removing the exam from the classroom.
- Acquiring exam or assignment answers or questions.
- Taking an exam for someone else or having someone take an exam for you.
- Performing any act designed to give unfair advantage to a student or the attempt to commit such acts.

Attendance

Attendance in class is integral to the learning process. Students are expected to attend every class. Some material may only be covered in class and not made available on the course website. Repeatedly coming to class late disrupts the teaching/learning environment in the classroom and adversely affects the other students in the class. Students are expected to notify their instructors by voice-mail or e-mail when they are absent from class. Students are expected to remain for the entire duration of the class. Students are responsible for all material covered and announcements made within classes, even when absent from classes.

Any quizzes or exams that are missed cannot be made up, so attendance is essential. More than three absences may result in the reduction of one letter grade on the final grade. If a student misses the equivalent of three weeks or more of class, no credit may be received for the course.

Tardiness

Students are expected to arrive for class and be in their seats by the scheduled beginning of class. Quizzes will be administered at the beginning of class, and anyone arriving late may not be allowed to take the quiz.

Cell Phones

Cell phones, pagers, and any other electronic devices that may disrupt class are to be left outside of class or turned off. Repeated violations of this policy will result in letter grade reductions.

Professional Demeanor

Part of receiving an education from a professional college is learning about your chosen field. Another part is learning to act like a member of that field. Professional Demeanor is in many ways the most important part of the learning process. How you act affects not only how others perceive you, but can also result in rewards or, alternatively, negative consequences. It will also affect your class grade.

The grade that you receive in this class will consist of two parts: the objective portion that is a calculated average of all assignments, quizzes, exams, etc., and a subjective portion that is based on your professional demeanor. The professional demeanor multiplier (PDM) can range from 0.85 to 1.05, and will be multiplied by your calculated average. Students will be assigned a PDM of 1.0 unless behaviors are exhibited that signify unreadiness for the workforce. Exceptional students may also be rewarded accordingly.

Final Grade = Calculated Grade * PDM

Students will demonstrate professional demeanor and commitment in a variety of ways: energetic and respectful participation in class, willing acceptance and completion of obligations; punctuality; and not whining. Professional demeanor includes several subjective items such as attendance, positive attitude, preparation, appropriate language and respectfulness to other students and the professor. Students are expected to come to class prepared, participate in activities and discussions, and treat others with respect in the classroom, which includes listening interactively to classmates and the professor, and respecting others’ viewpoints.

Students are expected to arrive for class and be in their seats by the scheduled beginning of class.

Attendance is very important and is addressed in a separate section. Students are expected to attend class. It is your responsibility to contact the professor when you are unable to attend, and to obtain information about missed assignments, etc., from classmates.

Do not leave class early unless prior arrangements have been made with the professor.

Do not read the newspaper during class.

Every cell phone, beeper, laptop volume control, pager, personal digital assistant, should be set to mute or off before coming to class. If any of these devices rings, beeps, or plays in class, you will be marked absent.

Some students enroll in a course already having experience in the subject area, and while contributions to discussions are welcomed, arrogance and unwillingness to learn or comply with professor directions will not be tolerated.
Laptop Policy
Increasing numbers of students are using personal computers to take notes in class. To maintain an atmosphere conducive to learning in the classroom and to avoid distracting others, students using laptops in classrooms should follow these principles of good practice:

- Set your computer so that no audible signal is heard (e.g., when the battery is low). Similarly, install software so that there is no sound when the software is "booted up" or used.
- Restrict laptop use to note taking or class-related websites. Random browsing, social networking, playing computer games, exchanging e-mail, and Internet messaging are discouraged. If you engage in unauthorized communication or entertainment (surfing, instant messaging, chat room chatting, DVD viewing, shopping, music playing, game playing, etc.), you will be marked absent.
- If a guest speaker comes into the class, please give the person your full attention and close your laptops.

Reading Materials
Students are responsible for thoroughly reading the course syllabus and understanding its content.

Students are expected to read the assigned materials (textbooks or supplemental materials) prior to the class day with which it is associated and to actively participate in class discussions. Unannounced quizzes may be given over reading assignments if students don't appear to be reading the material in advance.

Student Notification
All students are responsible for checking the web page and their e-mail on a regular basis, preferably daily, for notification of any class scheduling changes or assignment clarification. Notice of quizzes or assignment clarifications may be posted late at night.

eMail Etiquette
As noted, eMail is the best way to contact the professor, but please DO NOT use chat or SMS shorthand in your messages. Use full words. While shorthand is fine for casual messages, you are in a professional environment and need to present yourself as such.

Instructor Availability
The instructor will be available during posted office hours, but additional efforts are made to increase accessibility to the students. If the instructor is not available at the telephone number above, the student can leave a detailed voice mail message. These messages are checked each day and every effort is made to minimize delay in returning calls. In addition, the instructor’s e-mail is also checked several times each day and often the student will get an immediate response to questions submitted by e-mail. E-mail is usually the most reliable means of contact.

Course Fees
The fees on CIS courses are used to cover those expenses for which the State provides no budget. Specifically, your fee goes towards:

- Paying for our College of Business technical support personnel. These personnel install and maintain the software on instructors’ computers required for the course, conduct administrator activities for the Microsoft Academic Alliance (which provides the software for students), and maintain hardware in the classroom.
- Purchasing and maintaining the projection equipment used to conduct the class.
- Maintaining server software (e.g. Visual Studio) used in various CIS courses.

Without these fees, students would have to purchase their own software, there would be no projectors in classrooms, and instructors would not be able to run the software required for the course.

Special Needs
Our program is committed to all students achieving their potential. If you have a disability or think you have a disability (physical, hearing, vision, psychiatric, or learning disability) that may need a reasonable accommodation, please contact the ADA & Disabilities Resource Center located in the Rendezvous Complex, Room 125, 282-3599, as early as possible.

Closed Week Policy
Information about the ISU Closed Week Policy can be found online. Note that the policy does not prevent the presentation of new material during closed week.