

**THE UNIVERSITY OF TEXAS AT EL PASO**  
Department of Accounting and Information Systems

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**CIS 4365 – Database Management**  
Course Syllabus, Spring 2024

**Class Hours:** Mondays and Wednesdays 09:00 - 10:20 AM at CoBA 301  
**Office Hours:** Mondays and Wednesdays 1:00 - 3:00 PM (or by appointment)

**Course Description**

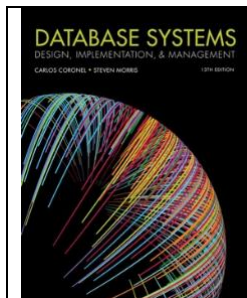
A practical course covering the concepts of relational database management systems (RDBMS) and Structured Query Language (SQL). Topics include conceptual design, relational systems design, normalization and denormalization processes, SQL, and its components.

**Learning Objectives**

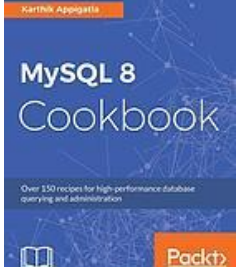
Upon successful completion of this course, students will be able to:

- Design and implement relational and non-relational databases.
- Use querying languages (e.g., SQL) to query data from databases.
- Connect databases to external software (e.g., python, Tableau)
- Apply best practices to manage databases.
- Implement policies to maintain the integrity and security of databases.
- Understand the basic principles behind data warehousing.
- Work with databases to create visual reports.
- Use database instances implemented in the cloud.





**Required books**



Coronel, & Morris, S. (2019). *Database systems: design, implementation, and management* (13th ed., student ed). Cengage Learning.

	<p>Appigatla. (2018). <b>MYSQL 8 COOKBOOK: over 150 recipes for high-performance database querying and administration</b> (1st ed.). PACKT Publishing.</p> <p>Available for free at UTEP library  <a href="https://utep.primo.exlibrisgroup.com/permalink/01UTEP_INST/1q3tr5t/cdi_askewsholts_vlebooks_9781788398442">https://utep.primo.exlibrisgroup.com/permalink/01UTEP_INST/1q3tr5t/cdi_askewsholts_vlebooks_9781788398442</a></p>
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## Required software

	MySQL Community Server. <a href="https://dev.mysql.com/downloads/mysql/">https://dev.mysql.com/downloads/mysql/</a>
	MySQL Workbench. <a href="https://dev.mysql.com/downloads/workbench/">https://dev.mysql.com/downloads/workbench/</a>
	Tableau for students. <a href="https://www.tableau.com/academic/students">https://www.tableau.com/academic/students</a>
	Python 3.0 or greater. <a href="https://www.python.org/">https://www.python.org/</a>

## Teaching methods

1. Lectures and in-class assignments (CLASS)
  - i. It is important for students to attend and engage in each class session. Students will be awarded participation points for each class session by completing an out-of-class activity (e.g., a short quiz, a survey, small assignment). Class participation activities are only available 24 hours after each class session. Only students that attend in person or present a formal justification for their absence will receive credit for their CLASS submission.
2. Class assignments (CASA)
  - i. Before each lecture, students will be assigned a CASA assignment. These assignments have the goal of preparing students for lectures. All CASAs are due one hour before the lecture. Students are expected to provide references for all answers which utilize sources outside the class material. Submissions that miss to include the information used outside of the class material will not receive credit and will be reported to the Honor Code system.
3. Train assignments (TRAIN)
  - i. The course has several TRAIN exercises to guide students in applying concepts of database management. Students will mainly use MySQL for completing their training exercises. However, some training exercises will require students to use other software packages, online services, and datasets available on the Internet. Students must disclose the source of all external material for every training exercise. Failure to disclose the external use of materials will not receive credit and be reported to the Honor Code System.
4. Exams
  - i. Three will be three learning assessments (Exams).

## Evaluation

In-class assignments – 10 points for each class session (25 CLASS assignments)

Class assignments – 15 points for each assignment (25 CASA assignments)

Train assignments – 15 points for each discussion (5 TRAIN assignments)

Exams – 100 points (3 Exams)

A	B	C	D	F
900	800	700	600	<600

## Late assignments

Late assignments will be awarded 20% less credit per day late. Make-up assignments, class participation, discussions, checkpoints, and presentation will not be given.

There is a “due date” and an “until” on each assignment; if an assignment is submitted after the “due date,” it will be counted late, the “until” is open for late submissions, which will suffer the late penalty (20% off per day).

## Extra credit

The course incorporates extra credit opportunities in assignments, in-class activities, and discussions to promote students’ engagement in the class. Students will have the opportunity to complete two optional assignments that can be used as supplementary training or replace two graded assignments.

## Email Procedure

Please include “CIS 4365” in the subject line of all emails to the instructor to ensure that they are properly filtered. It would be helpful if the subject line also included a brief statement of need, for example: “CIS 4365 – Request for Appointment.” Please read the following link about emailing a professor for some helpful suggestions (e.g., please start with a greeting including my name and a signature including your name): <http://www.wikihow.com/Email-a-Professor>.

## Accommodations

If you need special accommodations due to a disability, as recognized by the Americans with Disabilities Act, please contact The Center for Accommodations and Support Services (CASS) at 747-5148 or email at [cass@utep.edu](mailto:cass@utep.edu), or visit their office located at UTEP Union East, Room 106. For additional information, please visit the CASS website at [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass).

## Academic integrity

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones’ own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at

El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

### **Acceptable use of Artificial Intelligence (AI)**

The use of AI technologies or automated tools, particularly generative AI such as ChatGPT or DALL-E, **is only allowed with proper attribution given for its use.**

Students must properly cite and give full credit to the program used upon submission of every relevant assignment. For example, programming code generated using AI can only be used if the student understands its functionality. Additionally, all students must disclose the use of AI by including a citation, like the one below:

Chat-GPT(version). Date of query (year/month/day). “Text of your query.” Generated using OpenAI Chat-GPT. <https://chat.openai.com/>

**Copying and pasting blindly code directly from AI is strictly prohibited.** Students who plagiarize code will be reported to the Office of Student Conduct and Conflict Resolution (OSCCR).

### ***Tentative Course Outline***

<b>Module 1: Fundamentals of Database Management</b>	
Week #1	Introduction to database systems and modeling
Week #2	Database modeling
Week #3	Introduction to Structured Query Language (SQL)
Week #4	TRAIN 1 – Basics of SQL Advanced SQL
Week #5	Database design and implementation
<b>Module 2: Advanced Database Management and Querying</b>	
Week #6	Exam 1 – Fundamentals of Database Management Transaction management and concurrency control
Week #7	TRAIN 2 – Advanced SQL queries Database performance and optimization
Week #8	Distributed database management systems
Week #9	Database administration and security
Week #10	TRAIN 3 – SQL security best practices
Week #11	Exam 2 – Advanced Database Management Database connectivity and applications
<b>Module 3: Big data, business intelligence, and data visualizations</b>	
Week #12	Big data and NoSQL
Week #13	TRAIN 4 – Mystery investigation using SQL Business Intelligence and data warehousing
Week #14	Visualizing database data using Tableau
Week #15	TRAIN 5 – Tableau visualizations using databases Semester review
Final Exam	Exam 3 – All Modules

**Important Notes:**

1. In addition to the announced office hours, students may stop by my office at any time (or email me) to ask questions.
2. If you have any trouble with the class, please get help ASAP. Do not let the problems build up.
3. This syllabus is tentative.