SER 322 : Database Management

Fundamental methods in modeling and managing data-oriented systems. Relational, object, and hierarchical data modeling techniques. Query languages including SQL. Semantics of transaction processing. Database system architectures including cloud-based, client-server, and embedded databases. Security and privacy issues. Modern trends in data management including managing data on the cloud, unstructured data type management, data mining, and business analytics, and NoSQL data management platforms.

Course Information	
Credits:	3
Prerequisites:	SER 222
Session:	Fall A
Textbooks (including name, author, edition, and publisher):	Fundamentals of Database Management Systems by Ramez Elmasri and Shamkant Navathe (7th edition)

Course Coordinator Information	
Name:	Ajay Bansal
Phone:	(480) 727-1647
Office Hours:	M W 12pm - 1:30pm (Zoom Link: https://asu.zoom.us/my/abansal00) email: ajay.bansal@asu.edu

Course Instructor Information	
Name:	Diego del Blanco
Office:	(Remote)

Office Hours:	Mondays and Wednesdays 3:30pm - 4:30pm (if any change I will notify that in advance) We will use Slack for the office hours. I can set up a zoom room to talk in private if requested with time.

Learning Outcomes

At the completion of this course, students will be able to:

CLO1:	Design a relational data model solution for problems of intermediate complexity.
CLO2:	Query relational databases using SQL
CLO3:	Analyze a problem from a data perspective and model a solution using Entity Relationship modeling
CLO4:	Apply normalization theory to normalize a relational database
CLO5:	Demonstrate and understanding of Query Optimization and Transaction Processing
CLO6:	Demonstrate an understanding of Semi-structured, NOSQL, and Graph databases
CLO7:	Develop, populate, and query relational databases using SQL
CLO8:	Demonstrate ability to present project results to peers

Course Topics & Grading

Activities used for instruction and assessment of learning include: discussion/presentations; textbook and supplemental readings; individual and group activities/assignments; and case scenarios.

Course Topics:

Week	Topic(s)	Activities/Assignments (Assignments are due by 11:59pm MST on due date)
1	- Introduction to Database systems - Semantic Modeling: Entity-Relationship Modeling (ER Modeling) - Enhanced Entity-Relationship Modeling (EER or E2R Modeling)	- Review course material - Quiz 1 - Assignment 1 - Final Project Groups Creation
2	- Relational Data Model - Relational Algebra - Selection & Projection - Relational Algebra - Joins and Division	- Review course material - Quiz 2 - Assignment 2 - Final Project - Deliverable 1
3	- Introduction to Structured Query Language (SQL) - SQL Data Definition and Constraints - Basic Queries, Aggregation, Joins	- Review course material - Quiz 3 - Assignment 3
4	- Translating ER diagrams to Relational Schema - Translating enhanced ER diagram constructs to Relational Schema	- Review course material - Quiz 4 - Assignment 4 - Mid-term exam (material in Weeks 1 - 3) - Final Project - Deliverable 2
5	- Java Database Programming - Semi-structured databases	- Review course material - Quiz 5 - Assignment 5

6	• Normalization • Query Processing and Optimization • Transaction Processing	• Review course material • Assignment 6 • Final Project - Deliverable 3
7	• No SQL databases • Graph databases	• Review course material • Final Project - Deliverable 4 • Final Exam (materials in Week 1-7)

Grading

ASSESSMENT TYPE	WEIGHT
Quizzes	10%
Assignments	30%
Mid-term	15%
Final Exam	15%
Final Project	30%
Total	100%

Final Grading:

The grading scale for this class uses the +/- system.

Grade	Percentage

A+	98 - 100% (or above)
A	94 - 97%
A-	90 - 93%
B+	87 - 89%
B	84 - 86%
B-	80 - 83%
C+	77 - 79%
C	70 – 76%
D	60 – 69%
E/F	Below 60%

Grading Procedure

Grades reflect your performance on assignments and adherence to deadlines. Graded assignments will be available within 1 week of the due date via the Gradebook.

Communicating With the Instructor

This course uses the Discussion Tool for general questions about the course. Prior to posting a question, please check the syllabus, announcements, and existing posts. If you do not find an answer, post your question in the relevant Discussion. You are encouraged to respond to the questions of your classmates.

Email questions of a personal nature to your instructor or assigned TA. You can expect a response within 48 hours.

Online Course

This is an online course. There are no face-to-face meetings. You can log into your course via MyASU or https://my.asu.edu

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Email and Internet

ASU email is an official means of communication

among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

All instructor correspondence will be sent to your ASU email account.

Course Time Commitment

This three-credit course requires approximately 135 hours of work. Please expect to spend around 18 hours each week preparing for and actively participating in this course.

Late or Missed Assignments

You will be able to use one "Late Pass" for one of the assignments during the course. That will give you 24 hours extra to send the assignments without lose of grade. No questions about it... just include the "I use the late pass" in the assignment comments, and I will have it in mind.

Once the late pass is used, no more late submissions will be allowed. Any submission sent in the next 24 hours to the due date (without late pass) will have a 20% discount in the grade. Any submission sent after those 24 hours won't be accepted.

Notify the instructor BEFORE an assignment is due if an REALLY urgent situation arises and the assignment will not be submitted on time. REALLY urgent situation are very rare and really urgent, like... I was in the emergency room and had surgery. Things like "I had a lot of work this week, or I don't have electricity" are not considered REALLY urgent (for those things, you have one late pass during the course). We all have problems that can delay our work, and we need to deal with the consequences.

Published assignment due dates (Arizona Mountain Standard time) are firm. Please follow the appropriate University policies to request an [accommodation for religious practices](#) or to accommodate a missed assignment [due to University-sanctioned activities](#)

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Submitting Assignments

All assignments, unless otherwise announced, MUST be submitted to the designated area of Canvas. Do not submit an assignment via email.

Exams

There will be a midterm and final exam in this course and Honorlock will be used as the proctoring tool for it. Go to "Proctored Exam Information" link for further information on using this tool.

Drop and Add Dates/Withdrawals

This course adheres to a compressed schedule and may be part of a sequenced program, therefore, there is a limited timeline to [drop or add the course](#). Consult with your advisor and notify your instructor to add or drop this course. If you are considering a withdrawal, review the following ASU policies: [Withdrawal from Classes](#)

, [Medical/Compassionate Withdrawal](#), and a [Grade of Incomplete](#).

Grade Appeals

Grade disputes must first be addressed by discussing the situation with the instructor. If the dispute is not resolved with the instructor, the student may appeal to the department chair per the [University Policy for Student Appeal Procedures on Grades](#).

Student Conduct and Academic Integrity

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity. Additionally, required behavior standards are listed in the [Student Code of Conduct and Student Disciplinary Procedures](#), [Computer, Internet, and Electronic Communications policy](#), and outlined by the [Office of Student Rights & Responsibilities](#). Anyone in violation of these policies is subject to sanctions.

[Students are entitled to receive instruction free from interference](#) by other members of the class. An instructor may withdraw a student from the course when the student's behavior disrupts the educational process per [Instructor Withdrawal of a Student for Disruptive Classroom Behavior](#).

Appropriate online behavior (also knows as *netiquette*) is defined by the instructor and includes keeping course discussion posts focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. Inappropriate discussion board posts may be deleted by the instructor.

The Office of Student Rights and Responsibilities accepts [incident reports](#) from students, faculty, staff, or other persons who believe that a student or a student organization may have violated the Student Code of Conduct.

Copyright and Prohibition of Commercial Note Taking Services

All course content and materials, including lectures (Zoom recorded lectures included), are copyrighted materials and students may not share outside the class, upload to online websites not approved by the instructor, sell, or distribute course content or notes taken during the conduct of the course (see [ACD 304–06, "Commercial Note Taking Services"](#) and ABOR Policy [5-308 F.14](#) for more information).

You must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

Policy against threatening behavior, per the Student Services Manual, [SSM 104–02](#)

Students, faculty, staff, and other individuals do not have an unqualified right of access to university grounds,

property, or services. Interfering with the peaceful conduct of university-related business or activities or

remaining on campus grounds after a request to leave may be considered a crime. All incidents and allegations

of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU

Police Department (ASU PD) and the Office of the Dean of Students.

Course Evaluation

Students are expected to complete the course evaluation. The feedback provides valuable information to the instructor and the college and is used to improve student learning. Students are notified when the online evaluation form is available.

Syllabus Disclaimer

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. Please remember to check your ASU email and the course site often.

Accessibility Statement

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act as amended (ADAAA) of 2008, professional disability specialists and support staff at the Disability Resource Center (DRC) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities.

[Qualified students with disabilities may be eligible to receive academic support services and accommodations](). Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are [responsible for requesting accommodations and providing qualifying documentation]()to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities.

Qualified students who wish to request an accommodation for a disability should contact the DRC by going to https://eoss.asu.edu/drc, calling (480) 965-1234 or emailing DRC@asu.edu. To speak with a specific office, please use the following information:

ASU Online and Downtown Phoenix Campus	Polytechnic Campus
University Center Building, Suite 160	480-727-1165 (Voice)
602-496-4321 (Voice)	
West Campus	Tempe Campus
University Center Building (UCB), Room 130	480-965-1234 (Voice)
602-543-8145 (Voice)	

Sexual Discrimination

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/faqs.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish discuss any concerns confidentially and privately.

Computer Requirements

This course requires a computer with Internet access and the following:

- Web browsers ([Chrome](), [Internet Explorer](), [Mozilla Firefox](), or [Safari]())
- [Adobe Acrobat Reader]() (free)
- Microphone (optional) and speaker

Technical Support

This course uses Canvas to deliver content. It can be accessed through MyASU at http://my.asu.edu or the Canvas home page athttps://asu.instructure.com/.

To contact the help desk call toll-free at 1-855-278-5080.

Student Success

This is an online course. To be successful:

- check the course daily
- read announcements
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers
- create a study and/or assignment schedule to stay on track

Notices:

Any information in this syllabus (other than grading and absence policies) may be subject to change with reasonable advance notice.