

CS/DSA 4513 - Database Management Systems – Section 001-Fall 2019
1:30 PM - 2:45 PM (Mon, Wed); Room 128 DALE HALL (DAH)

INSTRUCTOR: Dr. Le Gruenwald; Office: 233 DEH; Tel. 325-3498; Email: ggruenwald@ou.edu;
Office Hours: 3:05 PM - 4:30 PM (Mon, Wed).

TEACHING ASSISTANTS (TAs):

Taras Basiuk; Office: 151 DEH; Email: taras.basiuk@ou.edu
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TA Office Hours: will be announced later.

COURSE DESCRIPTION: This course concentrates on the concepts and structures necessary to design and implement a database system. It is oriented towards the general principles, their applications, and the relevant theoretical foundation. It does not devote any significant time to discussion of specific commercial packages.

REQUIRED TEXT: Abraham Silberschatz, Henry Korth, and S. Sudarshan, *Database System Concepts*, 7th Edition, McGraw-Hill, 2019.

REFERENCE: Sara Baase, *A Gift of Fire, Chapters 2 and 8*, 4th Edition, Prentice Hall, 2013.

PREREQUISITE: (CS 2413 or CS/DSA 5005) and (CS 2813 or CS/DSA 5005 or Math 2513).

COURSE WEBSITE: <https://canvas.ou.edu>

COURSE CONTENTS:

Topic	Reading
1. Introduction - Basic Concepts of DBMS	Ch.1 (Silberchatz)
2. Entity-Relationship Model	Ch.6 (Silberchatz)
3. Relational Model and SQL	Ch. 2, 3, 4, 5, 7 (Silberchatz)
4. File Organization, Indexing, and Hashing	Ch. 10, 11 (Silberchatz)
5. Formal Query Languages	Ch. 2, 27 (Silberchatz)
6. Functional Dependencies and Normalization	Ch. 8 (Silberchatz)
7. Application Development	Ch. 7 (Siberchatz)
8. Query Processing	Ch. 15, 16 (Silberchatz)
9. Information Security and Privacy	Ch. 9 (Silberchatz), 2 (Baase)
10. Transaction Management and Database Recovery	Ch.17, 19 (Silberchatz), 8 (Baase)

ABET STUDENT OUTCOMES: This course will be evaluated for the following ABET Outcome 6: *Apply computer science theory and software development fundamentals to produce computing-based solutions.*

GRADING:

Attendance	9%
Graded Homework (Group and Individual)	16%
Individual Project	25%
Midterm Exam	20%
Final Exam	30%

No make-up exams, graded homework, or projects will be given.

ATTENDANCE: Your attendance is required for all class meetings. Attendance will be taken in 10 class meetings selected by the instructor. For every class meeting, students are required to bring their laptops to the class. In any class meeting when the instructor chooses to take attendance, using their laptops and the password given in that class meeting, students will log into the class website on Canvas to answer a quiz question that confirms their attendance. Sharing the password or the attendance quiz question with anyone else or taking the attendance quiz on behalf of anyone else will be considered academic misconduct and will result in actions as specified in the Academic Integrity Code at OU given in the Academic Integrity section in this syllabus. Your attendance score is determined by the number of class sign-ins (which is the number of attendance quizzes that you answered correctly) as follows:

Number of class sign-ins	Attendance Score
8-10	90 points
$2 \leq n \leq 7$	$n * 10$ points
0-1	Your course grade is F or AW

(Note: the maximum number of points for the course grade is 1000 points = 100%)

GRADED HOMEWORK: Each graded homework assignment will have two parts: group graded homework and individual graded homework. For the group graded homework part, you will work with your group members to answer the given questions. Your work for this part will be evaluated by both the instructor and your group members. Read the “The Grading Policy for the Group Graded Homework” posted on the course website for details. The individual graded homework part, which consists of the follow-up questions for the group graded homework part, must be answered by you only. For you to do well on the individual graded homework part, it is important that you work with your group members to answer the questions in the group graded homework part.

PRACTICE HOMEWORK: Practice homework will be assigned occasionally in class and will not be graded. Solutions to the practice homework will be posted on the class home page. It is the students' responsibility to do the practice homework and evaluate their solutions. Be warned that reading the solutions to the practice homework without trying to work the problems yourself first is a very poor strategy and will almost certainly result in failure on the exams.

ACADEMIC INTEGRITY: Individual Project, Graded Individual Homework, and Exams are individual work; they must be done by you only – no collaboration with anyone else is allowed. Graded Group Homework is group work; they must be done by you and your assigned group members only – no collaboration with other groups or anyone else is allowed. Plagiarism will result in actions as specified in the Academic Integrity Code at OU: http://integrity.ou.edu/files/Academic_Misconduct_Code.pdf. Consult also the following web page for a Student's Guide to Academic Integrity at OU: http://integrity.ou.edu/students_guide.html.

REASONABLE ACCOMMODATION POLICY: Students requiring academic accommodation should contact the Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Disability Resource Center website <http://www.ou.edu/drc/home.html>. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

RELIGIOUS OBSERVANCE: It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays without penalty.

ADJUSTMENTS FOR PREGNANCY/CHILDBIRTH RELATED ISSUES: Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact me as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability. Please see www.ou.edu/content/eoo/faqs/pregnancy-faqs.html for commonly asked questions.

TITLE IX RESOURCES: For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on-call 24.7, counseling services, mutual no contact orders, scheduling adjustments and disciplinary sanctions against the perpetrator. Please contact the Sexual Misconduct Office 405-325-2215 (8-5, M-F) or OU Advocates 405-615-0013 (24.7) to learn more or to report an incident.