# CPSC 3131 Database Systems 1 Fall 2009

**Instructor information**

Name: Dr. Shamim Khan
Office: Center for Commerce and Technology (CCT) Room 444
Office hours:
Monday-Thursday 9.30 AM-12 PM
If you are unable to see me during these hours, please make an appointment.
Email: khan_shamim@colstate.edu (preferred method of contact)
Website: http://csc.colstate.edu/khan
Office Phone: 706/565-3519; Dept. Phone: 706/568-2410

**Course details**

Meets MW 06:00pm-07:15pm in CCT 409
Course website at https://colstate.view.usg.edu

**Official Course Description**

The course covers the fundamentals of database systems. Topics to be covered include the following: file systems and database concepts, database models, relational database model, introduction to SQL, database design and implementation, database integrity, and normalization of database tables. Implementation techniques using commercial DBMS will be considered. The course includes lab work and individual database application programming projects.
**Prerequisite(s):** CPSC 2108 Data Structures

**Course Outcomes**

1. Students will learn the fundamental concepts of database systems.
2. Students will have an understanding of the relational database management model.
3. Students will understand entity-relationship diagramming and normalization thoroughly.
4. Students will learn the Structured Query Language (SQL) of database management systems.
5. Students will understand transactions, locking mechanisms and database recovery.
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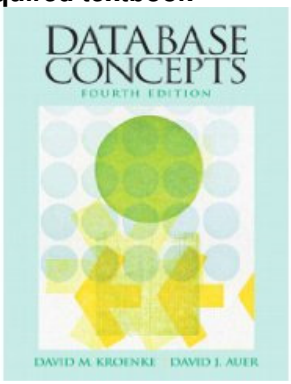
7. Students will learn about how database processing is used in business intelligence.
8. Students will gain competence in using a popular Database Management System (DBMS) for developing database applications.

This course will require you to do practical work with the Microsoft Access DBMS and MySQL.

**Required textbook**




Title: Database Concepts (4th Edition, 2010)
Authors: David Kroenke & David Auer
Publisher: Prentice Hall
Format: Paperback; 457 pages
ISBN-10: 013 608 6535

Website for online resources (including appendices) for the text book:
www.pearsonhighered.com/kroenke

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**Assessment components**

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|---|---|
| Assignments | 30% |
| Practical work | 25% |
| Classroom quizzes | 10% |
| Weekly reflections | 10% |
| Final exam | 25% |

**Grading scale**
A: 90-100 % B: 80-89 % C: 70-79 % D: 60-69 % F: below 60 %

**Assignments**
Three assignments will be given that build upon the concepts covered in the textbook and have to be completed on time. These will be made available through CougarView. Latest assignment due dates, will be announced through CougarView.
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Each week, you will submit through CougarView brief descriptions in your own words of anything significant that you learned during the week by answering the following three questions:

- What are the big ideas you learned during the week? State the ideas with some examples and explanations in your own words.
- Were there any new terms or phrases with which you became familiar? Define them briefly in your own words.
- What are some questions you still have and ideas you would like to pursue further?

The reflections will be due on Sunday of each week unless specified otherwise.

**Exams**
One non-comprehensive final exam is planned. You will be given advance notice of the exam. Multiple choice, true/false, fill in the blanks and short answer questions may appear in these exams. If you miss an exam, no make up will be allowed. Exams will be held in class and may be conducted online through CougarView.

**Course Schedule (subject to change)**

| Week starting | Lecture Topic | Chapters | Major Assessments - due weeks |
|---|---|---|---|
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| 8/24 | 2. Components and functions of a database system | 1 | |
| 8/31 | 3. The relational database model - concepts and terminologies | 2 | |
| 9/7 | 4. Functional dependencies and normalizing relations<br>*Monday, September 7: Labor Day holiday (no classes, offices closed)* | 2 | Assignment 1 |
| 9/14 | 5. Introduction to SQL as a Language for creating, querying and modifying databases | 3 | |
| 9/21 | 6. Using SQL Views | 3A | |
| 9/28 | 7. Introduction to database design and development | 4 | |
| 9/29 | 8. Entity-Relationship (ER) data model, use of ER diagrams for representing entities and their relationships | 4 | |
| 10/5 | 9. Converting data models into database design | 5 | Assignment 2 |
| 10/12 | 10. Database design continued – more on normalization, entities and relationships<br>*Monday, Oct 12 – Tuesday, Oct 13: Fall break (no classes)* | 5 | |
| 10/19 | 11. Introduction to database administration – concurrency control, deadlocks | 6 | |
| 10/26 | 12. Database administration continued – database security, data recovery | 6 | |
| 11/2 | 13. Basic database administration functions, distributed database processing, object-relational databases | 6 | |
| 11/9 | 15. Business intelligence systems, data mining<br>*November 25-29: Thanksgiving holiday break (no classes)* | 8 | Assignment 3 |
| 11/16 | 15. Business intelligence systems, data mining (continued) | | |
| 11/23 | Course topic revisits, and Survey | | |
| 12/7 | Last day of class on Monday | | |
| Mon., Dec. 15, 6:00-8:00 p.m., CCT 409 | | | Final Exam |

**Instructor responsibilities**
As an instructor of this course, I am responsible for:

- posting lecture notes online in a timely manner
- responding to student concerns via email in a timely manner (within 24 hours usually if I am in town)
- posting assignments and important announcements in a timely fashion

**Student responsibilities**
As a student in this course, you are responsible for:

- managing your time and maintaining the discipline required to meet course requirements
- covering all readings, online and offline, in a timely manner
- adhering to course deadlines, particularly, assignment due dates
- reading any e-mail sent by me and responding promptly
- logging in to CougarView at regularly to study any new developments

"I didn't know" or "I didn't look on website" is not an acceptable excuse for failing to meet the course requirements. If you fail to meet your responsibilities, you do so at your own risk.

**General Policies**

Attendance

Anytime during the semester **if you exceed more than six hours of absence from classes without an acceptable explanation, you will be dropped from this course** with a grade of WF. Refer to the CSU Catalog (http://academics.colstate.edu/catalogs/2008-2009/acaregs_undergrad.htm ) for more information on class attendance and withdrawal.

Missed assessments

You are responsible for all class work missed, regardless of the reason for the absence(s). Late assignments will not be accepted. No makeup exams or quizzes missed due to absence without an acceptable reason will be given, so please make sure you are present for all exams/quizzes.

Use of Phones and the Internet in the Classroom

Use of cell phones (including texting) and the Internet during a lecture for any purpose other than that related to the class distracts those sitting close to you and is unacceptable. You may be asked to leave the classroom if you violate this guideline.

**Academic dishonesty**
Academic dishonesty includes, but is not limited to, activities such as cheating and plagiarism (http://aa.colstate.edu/advising/a.asp#AcademicDishonestyAcademicMisconduct ). It is a basis for disciplinary action. Any work turned in for individual credit must be entirely the work of the student submitting the work. All work must be your own. [For group projects, the work must be done only by members of the group.] You may share ideas but submitting identical assignments (for example) will be considered cheating. You may discuss the material in the course and help one another with debugging; however, any work you hand in for a grade must be your own. A simple way to avoid inadvertent plagiarism is to talk about the assignments, but don't read each other's work or write solutions together unless otherwise directed by your instructor. For your own protection, keep scratch paper and old versions of assignments to establish ownership, until after the assignment has been graded and returned to you. If you have any questions about this, please see your instructor immediately. For assignments, access to notes, the course textbooks, books and other publications is allowed. All work that is not your own, MUST be properly cited. This includes any material found on the Internet. Stealing or giving or receiving any code, diagrams, drawings, text or designs from another person (CSU or non-CSU, including the Internet) is not allowed. Having access to another person's work on the computer system or giving access to your work to another person is not allowed. It is your responsibility to prevent others from having unauthorized access to your work.

No cheating in any form will be tolerated. **Penalties for academic dishonesty** may include a zero grade on the assignment or exam/quiz, a failing grade for the course, suspension from the Computer Science program, and dismissal from the program. All instances of cheating will be documented in writing with a copy placed in the Department's files. Students will be expected to discuss the academic misconduct with the faculty member and the chairperson.

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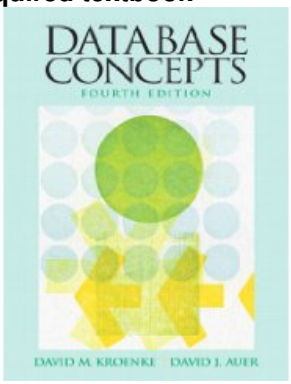


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