

COMP-4421 Course Syllabus

1 Course Information

Course Name	COMP-4421: Database Organization and Management
Prerequisites	COMP-4006 (graduate students)
Required Textbook	No textbook required

2 Course Description

An introductory class in database management systems covering both relational and non-relational databases with an emphasis on relational. Topics include database design, ER modeling, relational algebra, SQL, scripting, and embedded SQL. Each student will design, load, query and update a nontrivial database using a relational database management system (RDBMS). In addition, an introduction to a NoSQL database will be included.

3 Textbook and Materials

There is no required textbook for participation in this class. All materials will be available for students enrolled in the course at <https://canvas.du.edu> and online at various internal and external web sites. You will need a good internet connection and a laptop that meets DU specifications. (See <https://www.du.edu/it/support/how-to/students/laptops>). For technical support in using Canvas, please go to <http://otl.du.edu/knowledgebase/canvas>

4 Course Format

Each week will have a similar schedule.

There will be lecture during class time on Monday. There will potentially be extra readings/recorded topics in addition to Monday's live lecture.

There will be a new lab given based on that lecture material, which will be due the following week. We will be doing some live checkoffs of the labs and some submissions. Thus, you will check off/submit your lab the following week on Wednesday during your regularly scheduled class time (or submitting by class time if a submission week).

Following the lab checkoff/submission, a timed quiz will be made available on Wednesday evening after class. You can take the quiz anytime you wish on Thursday/Friday/Saturday/Sunday, but you will have 20 mins to complete each quiz once started.

In addition to the labs and quizzes there will be 2 larger programming assignments assigned throughout the quarter.

There will be no final this quarter.

5 Course Outline

1. Week 1: Introduction to Databases, SQL Language and Syntax
2. Week 2: SQL (continued), Joins and Nested queries
3. Week 3: Multiple tables, Joins and Nested queries (continued)
4. Week 4: Programming with SQL (Java, Python mysql access)
5. Week 5: Creating tables, data types, etc., Insert/Update/Delete; Transactions
6. Week 6: Data Modeling
7. Week 7: Advanced Data Modeling, Tables from Models
8. Week 8: Database Normalization
9. Week 9: Stored Procedures, Performance
10. Week 10: NoSQL Databases

6 Attendance Policy

Regular attendance is expected. Students are responsible for all material covered in class, including announcements and handouts.

7 Academic Integrity

All work submitted for this course must be the student's own original work. Any instance of plagiarism or cheating will be dealt with according to the university's academic integrity policy. Refer to the Student Rights and Responsibilities, as well as the University of Denver Student Honor code, here: <https://studentaffairs.du.edu/student-rights-responsibilities>

8 Disability Services

If you have a disability that may affect your ability to complete the work for this course, please contact the Disability Services office at: <https://studentaffairs.du.edu/disability-services-progr>