

Course Syllabus

QUICK MENU

Instructor	Objectives	Prerequisites
Materials/Texts	Schedule	Assignment Outline
Grading	Policies	

Summary

Course Title	Database Systems: Theory and Programming
Course No.	CS 04.430
CRN	
Start/End Dates	
Term/Module	

Delivery Method	Number of Face-to-Face Meetings
Face-to-Face	15

Course Description

This course focuses on the design of DBMS and their use to create databases. The course covers both the theoretical concepts and the implementation aspects of database systems with a special emphasis on relational database systems, SQL, programming (in a modern programming language such as C++ or Java) using a real database Application Programming Interface (such as JDBC or ODBC)

<p>I reserve the right to amend, alter or change the information in this course guide at my discretion. All terms and interpretations will be defined by me and are final.</p>
--

Instructor

[Top Menu](#)

Name	Jack F. Myers
Email	myersjac@rowan.edu
Phone	856-256-4500 x3278
Office Hours	Maintained in Rowan Starfish Network

Objectives

[Top Menu](#)

- Define the terminology, features, classifications, and characteristics embodied in database systems.
- Analyze an information storage problem and derive an information model expressed in the form of an entity relation diagram and other optional analysis forms, such as a data dictionary.
- Demonstrate an understanding of the relational data model.
- Transform an information model into a relational database schema and to use a data definition language and/or utilities to implement the schema using a DBMS.
- Formulate, using SQL, solutions to a broad range of query and data update problems.
- Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
- Use an SQL interface of a multi-user relational DBMS package to create, secure, populate, maintain, and query a database.
- Understand the value of NoSQL databases, and how to implement and query them
- Use a desktop database package to create, populate, maintain, and query a database.
- Demonstrate a rudimentary understanding of programmatic interfaces to a database and be able to use the basic functions of one such interface.
- Be familiar with the basic issues of transaction processing and concurrency control.

Prerequisites

[Top Menu](#)

- Data Structures and Algorithms or permission of instructor

Materials and Texts

[Top Menu](#)

- Fundamentals of Database Systems, 7th Edition, Ramez Elmasri & Shamkant B. Navathe, 2016.
- Graph Databases: New Opportunities for Connected Data, Ian Robinson, Jim Webber & Emil Eifrem

Schedule

[Top Menu](#)

Class schedule is posted at <http://jackmyers.info/db>

Assignment Outline

Individual assignment outlines are available at <http://jackmyers.info/db>

[Top Menu](#)

Grading

[Top Menu](#)

Final Grade Breakdown

Grading Criteria/Assignment	Percentage
Assignments:	20%
Projects	25%
Tests	25%
Final Exam	30%
Total	100%

Projects provide an opportunity to build a small application.

Assignments are meant to reinforce lecture materials and may be graded according to one of two models:

- **Traditional:** A numeric grade based on the scale from 0 to 100. Assignments not turned in on time receive a grade of zero.
- **General Suitability:** Either “Complete”, “Incomplete”, or “Not Turned In”

- **Complete** assignments will have no mathematical effect on the Assignment grade (will be set to the average of Traditional assignments);
- **incomplete** assignments will receive a grade of 10% lower than the average of Traditional assignments;
- assignments **Not Turned In** will receive a zero.
- At the instructor's discretion, **Extra Credit** assignments may be offered to the entire class. If completed correctly, these assignments will have a grade of 10% higher than the average of Traditional assignments; otherwise, they will have no mathematical effect on the grade.

Grading Scale

A	93 and Up	C	73 – 76
A-	90 – 92	C-	70 – 72
B+	87 – 89	D+	67 – 69
B	83 – 86	D	63 – 66
B-	80 – 82	D-	60 – 62
C+	77 - 79	F	59 and below

Rowan Policies

1. Attendance

Attendance is mandatory. The attendance/class participation portion of the course grade will be computed based on the number of missed classes and student's contribution to class discussion. See the official [Rowan University Attendance policy](#). Please inform the instructor in advance, preferably by email, if you will be absent from a class or lab session. **As this is a hybrid class, 5 points are removed from final grade from each unexcused absence.**

2. Academic Integrity

Plagiarism is a form of academic dishonesty which includes but is not limited to submitting someone else's work as your own and working on the individual assignments in groups. It is college policy that students who commit an act of academic dishonesty may be subject to failure in the course, suspension from the College, or both. See the official [Rowan University Academic Integrity policy](#)

If you use materials that you've obtained on the Internet, from a book, etc., for example as part of a programming assignment, you must include an appropriate reference. To use such materials without proper attribution is a form of plagiarism. Students who copy homework, cheat on tests, or plagiarize material for any test or assignment in this course will receive a **failing grade for the test or assignment.**

3. Late Assignment Submissions

Assignments not submitted on time will receive zero as a grade. However, most professors are reasonable people. If for some reason, you believe you will not be able to turn in homework on time, let me KNOW

AHEAD OF TIME and I MAY give you an extension.

4. **Classroom Decorum**

When meeting in a classroom, in order to show proper respect for the instructor and for your fellow students, please observe the following:

- a. Be on time! Class will begin promptly at the scheduled time. Allow yourself enough time to park and get to class, ready to learn, before the period begins. Quizzes will be given at the start of the class so if you are late you may miss a quiz.
- b. Do not eat in class.
- c. Do your best to remain in the room during the period. Exiting and entering during the period breaks the concentration of your fellow students, and makes it hard for you to get the full value of the class.
- d. Turn off all cell phones, pagers, and anything else that would cause a distraction to yourself or others around you.
- e. Students are permitted to use computers/laptops during class for note-taking and other class-related work only. Those using computers/laptops during class for work not related to that class (like e-mailing, instant messaging, game playing or internet surfing) will be asked to leave the classroom for the remainder of the class period.

5. **Section 504 Accommodations**

Please be aware that Rowan University is committed to providing Section 504 accommodations for all persons with disabilities. If you have specific physical, emotional, or learning disabilities and require accommodations, please contact the Office of Equity and Diversity at 856-256-4294 as soon as possible to ensure that such accommodations can be implemented in a timely fashion.

6. **Academic Issue**

If at any time a student has an academic problem in any course with a grade or any other issue, the student's first course of action to resolve the matter should be to make an appointment with the instructor to discuss the issue.

7. **Dropping or Withdrawing from this Class**

Please visit the [Registrar page](#) for a list of key dates for the semester. These dates include the full academic calendar as well as the last days to withdraw from this class with and without a refund.

8. **Illness**

It is important to get a note from student health services, or your personal doctor, or other form of documentation if you miss a class or a lab meeting. If you are not feeling well on a given day, please email or call me ahead of time. In this case, if you miss a quiz, I may let you make up that quiz.. If you have to miss an exam (and I hope you will not), re-tests will be given only in cases of extreme hardship as defined by the rules of Rowan University, and I require documentation of the reasons for your absence.

9. **Time Commitment**

This is a 3 semester-hour class, which means that for success in this class you should expect to be spending 6-9 hours a week outside of class on homework assignments, readings, etc.

