

Spring 2020

## **CS 331-104: Database System Design and Management**

Tanweer Haroon

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## CS 331 Syllabus

Spring2020

Text

Course Notes

Professor: Tanweer Haroon

Office Hours: By appointment

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### COURSE OVERVIEW

Database system architecture; data modeling using the entity - Relationship model; storage of databases; the hierarchical, network and relational data models; formal and commercial query languages; functional dependencies and normalization for relational database design; relation decomposition; concurrency control and transactions management. Student projects involve the use of a DBMS package.

Topics Covered:

- Data and Files
- Data Architecture
- Data Modeling
- SQL Query Language
- Normalization
- Concurrency Control
- Transaction Management

Prerequisite:

CS 114 or equivalent

LEARNING

OBJECTIVES

Upon completing this course, students will be able to:

- Understand the form and structure of the Database Programming language

- Become familiar with the steps in the Database development Process
- Understand how to write and use SQL queries in working With databases
- Understand how to manipulate data and storage of Information

## COURSE POLICY

### Attendance Policy

#### Attendance:

Students are expected to attend all classes, arrive on time, and stay until class is dismissed. Attendance will be taken every day at the beginning of class. Students are responsible for all material missed due to absence and should contact me or another student prior to the next scheduled class meeting to determine what was covered and/or assigned. Students are expected to hand in all assignments by the due date regardless of attendance. Any student absent on the day an Assignment is due is still responsible for handing in the assignment electronically before the deadline.

If a student is absent from lecture five times (the first day counts), the student's name will be recommended for withdrawal to the Dean of Freshman Studies. Two lates (more than 20 minutes) is equivalent to one absence. Make sure that you fully understand this attendance policy.

### Cheating Policy

Cheating on a programming assignment will result in zero credit for all students involved. Programming assignments may NOT be solved in collaboration, unless specifically stated in the assignment.

Cheating on an exam will result in an "F" in the course.

You may discuss problems with each other. Where does discussion end and cheating start? You may NOT copy lines of

code from anybody or anywhere. You may NOT use code in your assignments that you did not write. As a general rule: If you don't understand the code and can't explain the code, you can't use the code.

Please familiarize yourself with the NJIT Honor Code.

Violations of the honor code will be dealt with seriously and reported immediately to the Dean of Students.

#### Late Submission Policy

To receive full credit, all programming assignments must be handed in on time. Assignments that are not submitted on time will be penalized for each day that they are late. The type and severity of the penalty will be determined by the assignment. In general, a deduction of 10 points (out of 100) for the first day, 20 additional points for the second day, 30 additional points for the third day, and 40 additional points for the fourth day late will be subtracted from the final grade of the assignment.

#### Make-up Exams:

Make-up exams need to be approved by the Instructor.

Consideration will be given to those students who contact me before the exam (via e-mail or phone) and provide a valid, documented reason for missing the exam.

#### Grading Policy:

Your final grade is determined by the following:

Test 1 - 25%

Test 2 - 35%

Assignments – 20%

Quizzes and Class Participation – 20%