# CIS 282 – Fall 2021
# Relational Database Concepts and Application
# First Day Handout (Syllabus)

## Instructor Information:

**Instructor:** **Elhamy Fahmy – AJ**                    **mailbox:**        BE-200
**E-mail:** efahmy@wccnet.edu
**Virtual Office Hours:** Per appointment
**Credits:** 3

## Course Description

This is an introduction to relational database theory and practice. Topics covered include terminology, SQL (structured query language), normal forms, database design, database modeling, Introduction to DWH and BI. This course is intended for anyone possessing a basic knowledge of programming who is interested in database theory and practice. Prerequisites will be reviewed on the first day of class. The title of this course was previously Small Systems Database.

## COURSE OBJECTIVES

| Objective# | Objective Description |
|---|---|
| 1 | Learn what a Database Management System (DBMS) is, when to use it and to identify its components |
| 2 | Learn the advantages of using a Relational Database Management System (RDBMS) when storing and manipulating data |
| 3 | Learn the concepts of the Relational Model that underline a RDBMs including: relations, primary keys, foreign keys, referential integrity, functional dependency, normalization |
| 4 | Learn the basics of the Structured Query Language (SQL) needed to create database structures, add and manipulate data in the database, and select data from the tables of the database |
| 5 | Learn the elements of Data Modeling and the Entity Relationship (E-R) Model employed during the database development |
| 6 | Learn the need for and importance of database administration |
| 7 | Management of Database Architecture |

| 8 | As time permits: Introduction to Business Intelligence. Data Warehouses, OLAP and BI reporting tools |
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## Textbook & Course Materials

- Murach SQL Server 2016 for developers.

## GRADING POLICY

Your final grade in the course will be based on the following:

| | |
|---|---|
| **Seven Assignments – (Quizzes & Projects HW)** | 420 (60 each) |
| **Midterm** | 250 |
| **Final Examination** | 255 |
| **Attendance/Participation** | 75 |

Final grades assigned for this course will be based on the total points earned and are assigned as follows:

| Scale | Grade |
|---|---|
| 930 – 1000 | A |
| 900 – 929 | A- |
| 880 – 899 | B+ |
| 830– 879 | B |
| 800 – 829 | B- |
| 780 – 799 | C+ |
| 730 – 779 | C |
| 700 – 729 | C- |
| 680 – 699 | D+ |
| 630 – 679 | D |
| 600 – 629 | D- |
| Less than 600 | F |

# Course Structure

This course will be delivered entirely online through the course Blackboard. You will use your WCC account to login to the course. In BB, you will access online lessons, course materials, and resources. Activities will consist of participation, and email.

You are expected to read each assigned project prior to the lecture. Lectures will be short, to the point, and address the highlights of the Project for that week. Most of the class time will be spent working on your Laboratory assignments. If you are absent or late, you are responsible for getting the course notes, handouts, and laboratory assignments you missed.
The questions for quizzes and exams will be drawn from the course lectures, course text and course homework assignments. To prepare for the exam carefully read the text, review the homework assignments and the course lecture notes.

Make sure your name, due date, assignment number, section number, and exercise number/page **typed** on the assignment.

No make-up exams will be allowed no matter what the missing reason was.

Weekly Laboratory assignments can only be emailed immediately **BEFORE** lecture begins the following week. Assignments turned in after the due date will not be accepted.

# COURSE POLICIES

**Appeals Policy/ Challenging a Grade**
All questions about a grade for an exam, quiz or homework assignment must be submitted in writing within 7 days of the return of the assignment and no grades will be reconsidered after that period.
To maximize course time for lecture, grade challenges will not be discussed during the regular hours of the course.

**Student Conduct-in-Class Policy**
Any acts of session disruption that go beyond the normal rights of students to question and discuss with instructors the educational process relative to subject content will not be tolerated, in accordance with the Academic Code of Conduct described in the Student Handbook.

**Incomplete Policy**
Students will not be given an incomplete grade in the course without sound reason and documented evidence as described in the Student Handbook. In any case, for a student to receive an incomplete, he or she must be passing and must have completed a significant portion of the course.

**Late Work Policy**:
Be sure to pay close attention to deadlines—there will be no make-up assignments or quizzes, or late work accepted without a serious and compelling reason and instructor approval.

**Viewing Grades in BB:**
Points you receive for graded activities will be posted to the BB Grade Book. Click on the Grades link to view your points.

**Disabilities Policy**
In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to "reasonable accommodations." Please notify the instructor during the first week of class of any accommodations needed for the course.

**Attendance:**
Continual attendance is necessary for optimum performance in the classroom. It is equally important to attend the sessions properly prepared to take part in all discussions. While you may not always understand all of the readings, you should at least "know where you are confused! **If you are unable to attend class, you are independently responsible for obtaining all material covered from your fellow classmates.**

If a student misses the first two courses without contacting the instructor, the student can be administratively dropped by the instructor or marked as missing.
If a student misses more than two classes during the semester the instructor reserves the right to administratively drop the student if the instructor determines that the student will be unlikely to pass the course.

**Faculty Withdrawal:**
If a student is missing excessive classes or is danger of failing based on class performance the instructor may send an early academic alert letter identifying the academic concern. If corrective action is not taken in response to this letter, the instructor may drop the student at midterm.

**Important Note**:
This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check BB for corrections or updates to the syllabus. Any changes will be clearly noted in a course announcement or through email.

## Netiquette Guidelines

Netiquette is a set of rules for behaving properly online. Your instructor and fellow students wish to foster a safe online learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Working as a community of learners, we can build a polite and respectful course community. The following netiquette tips will enhance the learning experience for everyone in the course:

- Do not dominate any discussion.
- Give other students the opportunity to join in the discussion.
- Do not use offensive language. Present ideas appropriately.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting.
- Never make fun of someone's ability to read or write.
- Share tips with other students.
- Think and edit before you push the "Send" button.
- Do not hesitate to ask a question
- Using humor is acceptable

## Commit to Integrity

As a student in this course you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the class session.

Students are expected to uphold the school's standard of conduct relating to academic honesty. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work; examinations, reports, and projects must be that of the student's own work. Students shall be guilty of violating the honor code if they:

1. Represent the work of others as their own.
2. Use or obtain unauthorized assistance in any academic work.
3. Give unauthorized assistance to other students.
4. Modify, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
5. Misrepresent the content of submitted work.

The penalty for violating the honor code is severe. Any student violating the honor code is subject to receive a failing grade for the course and will be reported to the Office of Student Affairs. If a student is unclear about whether a particular situation may constitute an honor code violation, the student should meet with the instructor to discuss the situation.

## Build Rapport

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that we can help you find a solution.

## Topic Outline/Schedule

**Important Note:**

Refer to the **BB** course calendar for specific meeting dates and times. Activity and assignment details will be explained in detail within each week's corresponding learning module. If you have any questions, please contact me. <mark>Yellow</mark> **means we will meet on Zoom for this topic.**

| Week | Date | Topics | Assignment Due |
|------|------|--------|----------------|
| **1** | Tuesday 08/31 | Introduction to Database | |
| | Tuesday 09/07 | **Labor Day** | |

| | | | |
|---|---|---|---|
| 2 | Tuesday 09/14 | Chapter 1: Introduction to SQL | |
| 3 | Tuesday 09/21 | Chapter 2: How to use SSMS | Q1 |
| 4 | Tuesday 09/28 | Chapter 3: Writing SQL | Q2 |
| 5 | Tuesday 10/05 | Chapter 4: How to retrieve data from two or more tables | Q3 |
| 6 | Tuesday 10/12 | Chapter 5: How to code summary Queries **&** Chapter 6: How to code subqueries | Q4 |
| 7 | Tuesday 10/19 | Chapter 7: How to Insert – Update - Delete | Q5 |
| 8 | Tuesday 10/26 | **Midterm** | |
| 9 | Tuesday 11/02 | Chapter 8 & 9: Writing SQL Functions | |
| 10 | Tuesday 11/09 | The Relational Model | |
| 11 | Tuesday 11/16 | Chapter 10: Relational db design by converting ER – to Relational mapping | |
| 12 | Tuesday 11/23 | Functional dependencies and Normalization | |
| 13 | Tuesday 11/30 | Lab: ER and Normalization | |
| 14 | Tuesday 12/07 | Introduction to BI Tools and Review | Q7: How to design a DB |
| 15 | Tuesday 12/14 | **FINAL EXAM** | |