

LSIS 5451: DATABASE SYSTEMS

CLASS	Synchronous online class: Thursday, 6:00 – 8:30 pm Location: TBD Spring semester 2023
INSTRUCTOR	Dr. Ezezi Ogbo My pronouns are she/her/hers Office Hours: By appointment Email: egbo@nccu.edu

Course Description

A study of database models including relational, hierarchical, and networks; normalization techniques, query languages; and entity-relationship theory. We will study the theory and implementation of databases including how to design databases and write SQL queries to manipulate and retrieve data stored in a database.

Prerequisite: Information Systems in Organizations (LSIS 5010)

Course Methodology

This course is 100% online, with synchronous and asynchronous learning activities. Students are expected to use NCCU's Blackboard Learning Management System for all coursework. Students are expected to complete and submit all assignments in Blackboard. Students are expected to complete all reading assignments, participate in discussion board forums, and complete all assignments by due dates outlined in the course outline.

Objectives and Learning Outcomes

Upon successful completion of this course, students will be able to:

- Define key concepts in database technology
- Explain the advantages of database technology in data storage and processing
- Apply relational algebra and relational calculus in creating queries
- Design, build, and query a database using SQL
- Transform unstructured data into normalized tables

Required Readings

All readings must be completed *before* class on the week that they appear in the syllabus.

Class Textbooks

Database Systems, A Practical Approach to Design, Implementation, and Management. By Thomas Connolly & Carolyn Begg Addison Wesley, 6th Edition, 2015.

Required Technology

You must have MySQL Workbench installed and operational by the module 4 class session. See below for the download links for Windows and Mac:

- Windows users: Install the MySQL all in one package [here](#) and you can watch a video tutorial [here](#)
- Mac users: Install [MySQL Server](#) and [MySQL Workbench](#), you can watch a video tutorial [here](#)

If you have difficulties installing the required software, contact the [Information Technology Services](#).

North Carolina Central University (NCCU) Information Technology Services (ITS) provides information technology services to schools, administrators, staff and students, and the growing population of online and distance education students in NC. Contact ITS to:

- Purchase Microsoft Products for \$29.99 plus tax
- Report Service Outage for the MegaLab in Shepard Library
- Consult the Computer Repair Center
 - Website: <http://www.nccu.edu/administration/its/index.cfm>
 - Twitter: <https://twitter.com/NCCUETAC>
 - Facebook: <https://www.facebook.com/nccentraluniv>

Blackboard Course Management

Blackboard (<https://nccu.blackboard.com/>) will be used to distribute the syllabus, quizzes, exams, announcements, and to submit all your homework assignments. Ideally, the lecture slides will be posted in the folder for that lecture one hour after the class. Discussion boards should be used to ask course-related questions and questions about homework. Personal questions or to ask for assignment due-date extensions should be sent to my email.

Course Logistics

- The course will be a mix of lecture and discussion based
- Students are expected to complete the required readings and submit the associated homework before the class
- While I will lead the discussions, students are expected to come prepared to engage in the discussions
- There may be assigned readings that will not be discussed in class, but will be included in the homework/exam

Course Evaluation

The information below is a summary of how your performance will be evaluated in this course. Review the syllabus for complete details.

- **Homework Assignments (40%)** – You will complete 7 technical homework assignments. At the end of the semester, the homework with the lowest grade will be dropped.
- **Weekly Mini-quizzes (30%)** - After completing the required reading for each week, you will take a mini-quiz via Blackboard. The readings and the mini-quizzes are due before the live class of the week to facilitate student participation during the live class. **No late submission is allowed for the mini-quizzes.**
- **Exams (30%)**– You will take three exams and each will account for 10% of your final grade. The exams will be taken at the end of each major section in the course schedule.

Students will be assigned the following letter grades, based on the following scale:

A	92 – 100%
B	84 – 91%
C	75 – 83%
F	< 75%

Course Policies

Assessment/Evaluation Techniques

- **Assessment submissions:** All class deliverables must be submitted on Blackboard via Safe Assign. Any assessments submitted to my email will receive an automatic zero grade.
- **Assignment extension requests:** Assignment extension requests *MAY* be accepted ONLY for extenuating circumstances such as illness or family emergencies. Do not request an extension due to work schedules. Prior approval for extensions MUST be requested by the student contacting the instructor as early as possible.
- **Course Grades:** It is your responsibility to check your grades throughout the course and make sure your work is accounted for. If you turned in an assignment but your grade does not appear, please notify me when it is noticed. Do not wait until the end of the semester. Please note that your final course grade is based on the number of points earned in the course and how it corresponds with the grading scale. Your final course grade is non-negotiable. Do not contact me following the posting of final grades to complain and/or attempt to get your final grade changed unless there are valid grounds for appeal. There is no extra-credit offered in this course; it is better to spend your time mastering the course material. Turnaround time for grading written work tends to be within a week. I will determine final grades based on the grading scale provided in the course syllabus.
- **Grade Turnaround Time:** Assignments will be graded and returned no later than two weeks from the due date.
- **Incomplete grade:** The grade of “I” is assigned at the discretion of the instructor when a student who is otherwise passing (completed 75% of course work) has not due to circumstances beyond his/her control, completed all the work in the course. The missing work must be completed according to the written and signed agreement between the instructor and the student within the deadline set by the instructor, not to exceed one year from the end of the semester in which the “I” was assigned. The signed written agreement must be filed in the office of the department chair or dean and a copy must also be placed in the instructor’s file at the same time that final grades are due. If the “I” is not removed during the specified time, it will automatically turn into an F.
- **Grade appeal:** If a student believes that he or she has been graded improperly by a faculty member, the student should write to the instructor requesting review and re-evaluation of the final course grade. The student should also request a conference to discuss the matter. The meeting should be scheduled within 10 class days of the incident or two weeks after the student could reasonably be expected to be informed of the assigned grade.

If the student is dissatisfied with the results of the initial conference with the instructor, the student must seek the assistance of the department chair (program director) within five class days of meeting with the instructor.

A student may choose to file a formal grievance. However, a formal grievance may be filed only after conferring with the associate dean. The grievance must include the following: (a) date of incident; (b) date of first meeting with instructor; (c) reasons for which the student contends that the assigned grade is improper or unfair; (d) reasons for which the student believes that the grade should be changed or for why other corrective action should be taken; and (e) copies of any and all pertinent examinations, papers, and other relevant materials. The grievance must be filed with the associate dean within 20 class days of the initial meeting with the instructor.

Failure to meet these deadlines forfeits the student's right of appeal under this policy. Further, it is understood that only issues documented in the grievance statement will be considered at the subsequent hearing.

- **Academic Integrity:** Plagiarism is the representation of the words or ideas of another as one's own, including: direct quotation without both attribution and indication that the material is being directly quoted, e.g. quotation marks; paraphrase without attribution; paraphrase with or without attribution where the wording of the original remains substantially intact and is represented as the author's own; expression in one's own words, but without attribution, of ideas, arguments, lines of reasoning, facts, processes, or other products of the intellect where such material is learned from the work of another and is not part of the general fund of common knowledge.

Cheating or plagiarism will not be tolerated. Any form of cheating or plagiarism will result in a zero on the assignment. Your final letter grade will also be dropped by one letter grade. Cheating or plagiarism may even lead to your dismissal from the University. **All assignments must be submitted on Blackboard using SafeAssign.**

Late Assignment and Make-Up Policy

- **Late work:** *Late Multiple Choice Quizzes and Exams cannot be accepted.* All assignments are open at least a week ahead of the due dates so that students may turn work in early. Late assignments will be penalized at a rate of 5% for each day past the due date (i.e., an assignment submitted 2 days late will receive a 10% penalty). After 3 days your assignment cannot be accepted and you will receive a zero for the assignment.

Participation Policy

- **Synchronous class etiquette:** Unexpected (or background) noises could affect everyone's learning experience. Therefore, all students must mute their microphones when they join the class.
- **Office Hours:** If you schedule an office hour and are unable to attend, you must cancel the appointment before the scheduled time. The directions to cancel the appointment would be in the confirmation email that you receive after scheduling the office hour. If you do not cancel the office hour in a timely manner, you will not be allowed to schedule another office hour for the rest of that week and the following week. The office hours for this class are a limited resource. Scheduling office hours and not showing up means the time slot cannot be used by another student that needs it. Also, it is unprofessional to schedule meetings and not show up.

University Policies

Attendance Policy

This is an online course with mandatory attendance. Students who do not attend classes during the first two (2) weeks of class will be dropped due to non-attendance. Students must attend at least **one** day to confirm attendance in the course. Students who do not attend before the census date will be dropped. After the census date (the 10th day of class), any student who misses the equivalent of two (2) weeks of class meetings or 13.3% of total instructional time (as set forth below) prior to the determined drop date for the university (as noted in the Academic Calendar) will receive an automatic grade of WA (withdrawal due to lack of attendance) at the point of the withdrawal date. This will be the final grade for the grading period. This grade will automatically be entered by the faculty member teaching the course.

Two Weeks of Instruction equates to the following:

M/W/F Classes: 6 total absences

M/W or T/R Classes: 4 total absences

Classes that meet once a week: 2 total absences

*Special consideration will be granted if a student has accommodations as required by the Americans with Disabilities Act based on a documented disability or another documented need. Special consideration may be granted if a student is absent or late due to the student's participation in a University-sponsored program or event.

Excused Absences

Students are responsible for presenting adequate reason for online absence to the instructor **in writing**. To the extent possible, students should notify the instructor in advance about anticipated absences. Students are encouraged to complete scheduled assignments prior to the absence when possible. If students cannot give advance notice of an absence, they should notify the instructor as soon as possible for the reason for the absence with appropriate documentation. (Adequate reasons include personal illness; medically necessary absences due to pregnancy or childbirth; death or illness in the immediate family; military obligations; inclement weather; state-observed religious holidays; court-imposed legal obligations; approved accommodations by the Office of Services for Individuals with Disabilities; or participation in a pre-approved university activity.)

Students who miss class to participate in University-sponsored activities can request documentation from the appropriate office (Athletics, Honors, etc.) to note that they have an excused absence for the missed class time. It is ultimately the student's responsibility to inform the faculty member of such activities at least one (1) week before the authorized absence, and to make up all work as determined by the faculty member.

Recording Class Attendance

If a student misses three (3) consecutive class meetings and the faculty member deems advisable, the faculty member is required to enter that information into Navigate or any other academic system used to track student attendance, and to also report the information to the student's academic dean for appropriate follow-up.

Statement of Inclusion/Non-Discrimination

North Carolina Central University is committed to the principles of affirmative action and non-discrimination. The University welcomes diversity in its student body, its staff, its faculty, and its administration. The University admits, hires, evaluates, promotes, and rewards on the basis of the needs and relevant performance criteria without regard to race, color, national origin, ethnicity, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran's status, or religion. It actively promotes diversity and respectfulness of each individual.

Student Accessibility Services

Students with disabilities (physical, learning, psychological, chronic or temporary medical conditions, etc.) who would like to request reasonable accommodations and services under the Americans with Disabilities Act must register with the Office of Student Accessibility Services (SAS) in Suite 120 in the Student Services Building. Students who are new to SAS or who are requesting new accommodations should contact SAS at (919) 530-6325 or sas@nccu.edu to discuss the programs and services offered by SAS. Students who are already registered with SAS and who would like to maintain their accommodations must renew previously granted accommodations by visiting the NCCU Accommodate Website at <https://nccu-accommodate.symphlicity/students/index.php> and logging into their Eagle Accommodate Student Portal. Students are expected to renew previously granted accommodations at the beginning of each semester (Fall, Spring & Summer sessions). Reasonable accommodations may be requested at any time during the semester for all students; however, accommodations are not retroactive. Returning semester requests for returning students are expected to be done within the first two weeks of the semester. Students are advised to contact their professors to discuss the testing and academic accommodations that they anticipate needing for each class.

Students identifying as pregnant or other pregnancy-related conditions who would like to request reasonable accommodations and services must register with SAS.

Confidentiality and Mandatory Reporting

All forms of discrimination based on sex, including sexual harassment, sexual assault, dating violence, domestic violence, and stalking offenses, are prohibited under NCCU's Sexual Harassment Policy (NCCU POL 01.04.4). NCCU faculty and instructors are considered to be mandatory reporters and are required to promptly report information regarding sexual harassment to the University's Title IX Coordinator. The Sexual Harassment Policy can be accessed through NCCU's Policies, Regulations and Rules website at www.nccu.edu/policies. Any individual may report a violation of the Sexual Harassment Policy (including a third-party or anonymous report) by contacting the Title IX Coordinator at (919) 530-7944 or TitleIX@nccu.edu, or submitting the online form through the Title IX Reporting Form, located at www.nccu.edu/titleix.

Other Campus Programs, Services, Activities, and Resources

Other campus resources to support NCCU students include:

- **Student Advocacy Coordinator.** The Student Advocacy Coordinator is available to assist students in navigating unexpected life events that impact their academic progression (e.g., homelessness, food insecurity, personal hardship) and guide them to the appropriate University or community resources. Contact Information: Student Services Building, Room G19, (919) 530-7492, studentadvocacy@nccu.edu.
- **Counseling Center.** The NCCU Counseling Center is staffed by licensed psychologists and mental health professionals who provide individual and group counseling, crisis intervention, substance abuse prevention and intervention, anger management, and other services. The Counseling Center also provides confidential resources for students reporting

a violation of NCCU's Sexual Misconduct Policy. Contact Information: Student Health Building, 2nd Floor, (919) 530-7646, counseling@nccu.edu.

University Police Department. The University Police Department ensures that students, faculty and staff have a safe and secure environment in which they can live, learn, and work. The Department provides a full range of police services, including investigating all crimes committed in and around its jurisdiction, making arrests, providing crime prevention/community programs, enforcing parking regulations and traffic laws, and maintaining crowd control for campus special events. Contact Information: 2010 Fayetteville Street, (919) 530-6106, nccupinfo@nccu.edu.

Course Schedule

<i>Module Topic & Dates</i>	<i>Readings & Materials</i>	<i>Assignments</i>
Module 0: Introduction & Overview of the Class Module 1: Introduction to Databases and the DB Environment <i>(01/12)</i>	Read the syllabus, course calendar, and course policies Read Connolly & Begg, Chapters 1 & 2	<ul style="list-style-type: none"> • Syllabus quiz • Quiz #1 • Homework #1
Module 2: Relational Data Model <i>(01/19)</i>	Read Connolly & Begg, Chapters 4 & 5	<ul style="list-style-type: none"> • Quiz #2 • Homework #2
Module 3: SQL: Data Manipulation I <i>(01/26)</i>	Read Connolly & Begg, Chapter 6 (stop at 6.3.3)	<ul style="list-style-type: none"> • Quiz #3 • Homework #3
<i>(02/02)</i>	EXAM I	
Module 4: SQL: Data Manipulation II <i>(02/09)</i>	Read Connolly & Begg, Chapter 6 (6.3.4 to 6.3.6)	<ul style="list-style-type: none"> • Quiz #4
Module 5: SQL: Data Manipulation III <i>(02/16)</i>	Read Connolly & Begg, Chapter 6 (6.3.7 to 6.3.10)	<ul style="list-style-type: none"> • Quiz #5 • Homework #4
<i>(02/23)</i>	<i>Data Manipulation Lab</i>	
<i>(03/02)</i>	EXAM II	
<i>(03/09)</i>	Deadline to withdraw from class with WC grade Friday 03/03	
	SPRING BREAK	
<i>(03/16)</i>	<i>Data Manipulation Lab</i>	

Module 6: Database Models & Entity Relationship (ER) Modeling (03/23)	Read Connolly & Begg, Chapter 12	<ul style="list-style-type: none"> • Quiz #6
Module 7: Enhanced Entity Relationship (EER) Modeling (03/30)	Read Connolly & Begg, Chapter 13	<ul style="list-style-type: none"> • Quiz #7 • Homework #5
Module 8: SQL: Data Definition (04/06)	Read Connolly & Begg, Chapter 7	<ul style="list-style-type: none"> • Quiz #8 • Homework #6
Module 9: Normalization (04/13)	Read Connolly & Begg, Chapter 14	<ul style="list-style-type: none"> • Quiz #9 • Homework #7
(04/20)	<i>Ask Dr. Ogbo Anything</i>	
GRADUATING STUDENTS: EXAM III OUT 04/22 (DUE ON WEDNESDAY 04/26)		
NON-GRADUATING STUDENTS: EXAM III OUT 04/27 (DUE ON MONDAY 05/01)		

Note: The due dates may be subject to change. As a student, it is your responsibility to review announcements, lecture recordings, and other communications on Blackboard and in your email for changes to the syllabus.