NJIT New Jersey Institute of Technology

MARTIN TUCHMAN SCHOOL OF MANAGEMENT

Syllabus

MIS 385 Database Systems for Managers

SEMESTER	SECTION	DELIVERY MODE	CREDITS
Fall 2023 (10/25/23 - 12/14/23)	453	Online	3

INSTRUCTOR

Dr. Manish Tripathy, Senior University Lecturer
E-mail: manish.tripathy@njit.edu
Office hours: By Appointment.

DELIVERY MODE

Online: Delivery of instruction in which all course activities can be completed online through the learning management system. There are no required face-to-face sessions but students are expected to follow a week-by-week schedule as outlined in the syllabus. See the FAQs about online courses.

PREREQUISITES

- CS 103 Computer Science with Business Problems or CS 100 Roadmap to Computing
- MIS 245 Introduction to Management Information Systems

COURSE DESCRIPTION

This course introduces the fundamentals of database systems for business applications. The course focuses on relational databases and SQL. The course also introduces the concepts of database assessment and governance issues for business needs, as well as, database security and data visualization for managerial applications. Students will gain hands-on experience in database systems management through course assignments.

COURSE LEARNING GOALS (LG) AND OUTCOMES (LO)

LG 1. Acquire the skills necessary to effectively use database systems to address business problems.

LO 1.1. Explain how databases and data visualization tools fit in the business context.
LO 1.2. Analyze a database and use one independently.
LO 1.3. Use current database software tools to manage business data.
LO 1.4. Manipulate and query relational databases using SQL.
LO 1.5. Recognize the issues of database governance and security, in various business situations.
LO 1.6. Manipulate and organize data to create interactive visualizations that allow the communication of information to the viewer.

LG 2. Develop analytical and problem-solving skills.

LO 2.1. Apply design techniques and a database management system to implement an operational database that addresses the needs of a business application, and that is normalized, free of redundancies and anomalies.
LO 2.2. Evaluate the quality of database systems.

LG 3. Develop and enhance interpersonal and team skills.

LO 3.1. Collaborate and negotiate to achieve common team goals.

LG 4. Develop communication and presentation skills.

LO 4.1. Communicate decisions/ideas in an effective, convincing, and professional way, both orally and in writing.

CANVAS COURSE WEBPAGE

- All announcements, course material, assignments, exams, grades, etc. will be posted on the Canvas course webpage. Students are responsible for remaining up to date at all times. By default, Canvas uses your NJIT email address. If you do not check that regularly, you must change the address in your Canvas profile to one that you do check.
- Canvas Accessibility Statement.

SOFTWARE / HARDWARE (REQUIRED)

- This course requires the use of a computer with internet access for all class work. NJIT requires all students to have access to a computer at their place of residence. Please check Undergraduate Student Computer Requirement. A webcam is also required.
- Software: Ms Access, MySQL Workbench, and Tableau Desktop. Details on how to obtain and install the software will be posted on Canvas. Note that Ms Access is only available for Windows.

TEXTBOOK (OPTIONAL)

- *Introductory Relational Database Design for Business*, Eckstein and Schultz, Wiley; ISBN:978-1119-32941-1
- I will provide the slides, brief lecture notes, and solved exercises on Canvas.

COURSE DELIVERABLES

- **Exams**
  - Exam 1 covers database design topics (Weeks 1, 2, 3).
  - Exam 2 covers SQL (Weeks 4, 5, 6)
  - Exams are usually between 80 to 150 minutes long and are mostly multiple-choice based.
  - Exams are timed, fully online, and will be proctored using technological tools (see below).
  - Exams are individual and no collaboration with any other individual is allowed.
- **Project**
  - The class project is a group-work assignment that consists of multiple milestones:
    1. Individual pitch on a small business idea for the database
    2. Report with database design
    3. MySQL Workbench implementation of the database
    4. SQL Queries
    5. Tableau visualizations
    6. Video presentation of the project

7. Peer and self-evaluation
   - Groups can have either 2 or 3 students.
- **Exercise assignments**
  - Individual assignments consisting of exercises to apply the topics learned.
- **Quizzes**
  - At the end of each week, there is a quiz on the topics covered that week.
- **Peer-interaction activities**
  - Each week I will create a discussion forum with an activity that will require interaction/collaboration with other peers.
  - You are required both to write a post and to respond to at least one post from other students.
- **Reflections**
  - At the end of each week, there is an assignment with questions to help you reflect either on your learning experience that week, or on the work of your peers in the project.
  - The answers are made in a discussion forum and they are available to the whole class.
  - The answers are graded based on the level of engagement demonstrated.

GRADING POLICY

- Your course grade will be based on an aggregate score as shown below:
  - 30% Exams (2)
  - 25% Project
  - 20% Exercise assignments
  - 10% Quizzes
  - 10% Peer-interaction activities
  - 5% End-of-week reflections
- MTSM's Grading scale

A	B+	B	C+	C	D	F
Superior	Excellent	Very Good	Good	Acceptable	Minimum	Inadequate
90%	87%	80%	77%	70%	60%	<60%

- Incompletes (I) are only given under special circumstances (e.g. major illness, family tragedy, military service). Students must contact the Dean of Students' office and have it determine whether extenuating circumstances exist or not.
- I do not offer extra credit work to improve grades after they have been issued. Such a policy is not fair to other students.

EXAM PROCTORING

- NJIT policy requires that all midterm and final exams must be proctored, regardless of delivery mode, in order to prevent academic integrity violations.
- In this course you will be required to Respondus LockDown Browser and Monitor proctoring:

- Respondus LockDown Browser is a locked browser for taking assessments in Canvas. It prevents students from printing, copying, going to another URL, or accessing other applications during a quiz. If a Canvas quiz requires that LockDown Browser be used, students will not be able to take the assessment or quiz with a standard web browser.
- Respondus Monitor uses a webcam that will record you while taking the exam.

- Please check the links to download the Respondus LockDown Browser, and to learn about how to use it.
- A practice quiz will be created on Canvas for you to familiarize yourself with and test the technology before each exam.

MAKE-UPS POLICY

Work will be accepted late without penalty or allowed to be made-up under certain circumstances:

- For extraordinary circumstances beyond students' control such as sickness, **students must contact the Dean of Students' office** and have it determine that the circumstances for not doing the work on time are valid. The predictable demands of family, work and other courses do not mean extraordinary circumstances. Students are expected to be able to balance these with this course's demands. Inability to access the Internet or Canvas is not considered an extraordinary circumstance.
- If you expect to miss an exam because of religious observance, you must inform the instructor by the end of the second week of classes.

HOW TO CONTACT THE INSTRUCTOR? OFFICE HOURS, EMAIL, AND DISCUSSION FORUM

- By default, I will always be available at the aforementioned office hours times. If for some reason I have to cancel office hours, I will send an announcement via Canvas as soon as possible. If you cannot make it during the regular office hours times, you can email me requesting an appointment.
- **For questions / concerns about the material or homework assignments**, it is preferable that you use the "Ask the instructor" forum instead of email (or go to office hours). This way I can reach other students with the same questions. To receive communications regarding forum posts, be sure to subscribe to the forums, and, in your Canvas Notifications Preferences, select that you want to receive emails with the new posts.
- **For all personal matters**, please email the instructor or use office hours.
- I will do my best to respond to all emails / "Ask the instructor" forum posts within 24 hours. I usually do not respond to emails during the weekend.
- I will grade every assignment within a week. Feedback on assignments will be given using the comments feature in Canvas. Please check for any comments after you receive your grades.

EMAIL ETIQUETTE

This is a business course and the expectation is that you will conform to appropriate business letter writing practice in all of your email to me. The following are the basics.

- Put the **course name and section name** (e.g. MIS 385 453) in the subject line
- Identify the subject of the e-mail with a brief but **descriptive** summary of the topic: and the assignment details such as the title, homework, or test.
- **Proofread your e-mail** for proper sentence structure, capitalization, spelling and punctuation.

ACADEMIC INTEGRITY

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the University Policy on Academic Integrity. Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. **Any student found in violation of the code by cheating, plagiarizing or using *any online software inappropriately will result in disciplinary action. This may include a failing grade of* F, and/or suspension or dismissal from the university.** If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu"

WHAT IS EXPECTED FROM YOU

- Participate 100% of the weeks. Watch the lecture videos and complete the assignments in a timely and professional manner.
- Ask questions!
- Be respectful: Students are expected to follow the NJIT's Code of Student Conduct. Students should be polite and respect their instructor, classmates, as well as ideas or opinions that differ from their own.
- Remain fully informed as to class plans, announcements, and assignments.

DISABILITY ACCOMMODATIONS

Educational access is the provision of classroom accommodations, auxiliary aids and services to ensure equal educational opportunities for all students regardless of their disability. If you are in need of accommodations due to a disability please contact Scott Janz (oars@njit.edu), Associate Director of the Office of Accessibility Resources & Services (OARS), Kupfrian Hall 201, to discuss your specific needs. A Letter of Accommodation Eligibility from the OARS authorizing your accommodations will be required. Accommodations need to be requested in advance and will not be granted retroactively.

SHARING OF CLASS MATERIALS

All course content (including this syllabus, lecture slides and handouts, homework assignments, and exams) is protected content. Students should not make copies of any course materials or distribute these materials in the public domain, including sites such as Chegg, CourseHero, etc.

ON-CAMPUS STUDENT RESOURCES

Please check this list of NJIT services for students, including technical support.

COURSE AND ASSIGNMENT SCHEDULE

Week	Topic	Assignments
1 (10/25 to 10/30)	▪ Course presentation ▪ Introduction to databases. ▪ Relational databases basics ▪ Ms Access basics ▪ Introduction to one-to-many relationships	*Due Thursday:* ▪ Week 1: Peer-interactive discussion (1st post)
		Due Sunday: ▪ Week 1: Quiz ▪ Week 1: Exercise assignment ▪ Week 1: Peer-interactive discussion (response to other posts) ▪ Week 1: Reflection
2 (10/31 to 11/06)	▪ Database design exercises; ▪ Cascade deletes and updates; ▪ Many-to-many relationships ▪ Advanced database design topics	*Due Thursday:* ▪ Week 2: Peer-interactive discussion (1st post) ▪ **Project milestone 1**
		Due Sunday: ▪ Week 2: Quiz ▪ Week 2: Exercise assignment ▪ Week 2: Peer-interactive discussion (response to other posts) ▪ Week 2: Reflection
3 (11/07 to 11/13)	▪ Subtypes and One-to-one relationships ▪ Unary relationships ▪ Database anomalies ▪ Normalization	*Due Thursday:* ▪ Week 3: Peer-interactive discussion (1st post) ▪ **Project milestone 2**
		Due Sunday: ▪ Week 3: Quiz ▪ Week 3: Exercise assignment ▪ Week 3: Peer-interactive discussion (response to other posts) ▪ Peer review of milestone 2
4 (11/14 to 11/20)	▪ MySQL Workbench basics ▪ Introduction to SQL queries ▪ SQL queries with aggregation	*Due Thursday:* ▪ **Exam 1 (open Monday through Thursday)** ▪ Week 4: Peer-interactive discussion (1st post)
		Due Sunday: ▪ Week 4: Quiz ▪ Week 4: Exercise assignment ▪ Week 4: Peer-interactive discussion (response to other posts) ▪ Week 4: Reflection

5 (11/21 to 11/27)	▪ SQL joins ▪ SQL queries practice exercises	*Due Thursday:* ▪ Week 5: Peer-interactive discussion (1st post) ▪ **Project milestone 3**
		Due Sunday: ▪ Week 5: Quiz ▪ Week 5: Exercise assignment ▪ Week 5: Peer-interactive discussion (response to other posts) ▪ Project Check-in Survey
6 (11/28 to 12/04)	▪ SQL data manipulation. ▪ Subqueries. ▪ The UNION operator.	*Due Thursday:* ▪ Week 6: Peer-interactive discussion (1st post) ▪ **Project milestone 4**
		Due Sunday: ▪ Week 6: Quiz ▪ Week 6: Exercise assignment ▪ Week 6: Peer-interactive discussion (response to other posts) ▪ **Exam 2 (open Thursday through Sunday)** ▪ Week 6: Reflection
7 (12/05 to 12/11)	▪ Data administration, security and data governance ▪ Data visualization with Tableau	*Due Thursday:* ▪ Week 7: Peer-interactive discussion (1st post) ▪ Week 7: Exercise assignment
		Due Sunday: ▪ Week 7: Quiz ▪ Week 7: Peer-interactive discussion (response to other posts) ▪ **Project milestone 5** ▪ **Project milestone 6** ▪ Week 7: Reflection
Final week (12/12 to 12/14)	▪ No topics taught in the final week	*Due Wednesday:* ▪ Peer review of milestone 6 ▪ **Project milestone 7** ▪ Course feedback survey