1. **Meeting Time and Place**  
   Location: Music Theater Building 1007  
   Time: 7:20 pm - 10:00 pm (Tue)

2. **Instructor Contact Information**  
   Professor: Kal Majumdar, BS in Computer Science, MBA, PMP, CSM  
   Email: kmajumda@gmu.edu  
   Office Hours: By appointment.

3. **Required Course Materials**  
   b. **Software**: *Microsoft SQL Server Express 2012, Microsoft Visio Professional 2010*.  
      These software are available for free download and installation on your personal computers through the Microsoft Developer Network Academic Alliance (MSDNAA). Note that there are no Mac versions of the software. It is your responsibility to make sure your assignments meet the required PC standards. Please contact sommsdn@gmu.edu for support.

4. **Course Description**  
   Computerized databases are vital to the functioning of modern organizations. Businesses collect large amount of data such as names, addresses, and credit card numbers on a daily basis. All this information is stored in databases. With the proliferation of the Internet and the means to capture data in computerized form, a vast amount of data is available at the click of a mouse button. Organizing these data for ease of retrieval and maintenance is paramount. Thus managing databases has become a vital task in most organizations.

   In this course, we will study the fundamental concepts and techniques of modeling and designing relational databases. We will discuss why databases are used, and describe the main components of database management systems. Further, we will cover the fundamental Structured Query Language (SQL) statements used to define and process databases. Using a wealth of sample databases and examples, students will gain skills to systematically solve basic and advanced problems in query formulation, data modeling, and normalization. The course will use Microsoft SQL server 2012 as the relational database management system and Microsoft Visio as the data modeling tool to implement the concepts covered in class. We will cover few examples of industry best practices also.
5. **Course Objectives**
   a. Describe the components of a database management system.
   b. Introduce the relational model and define key relational database terms.
   c. Apply the Structured Query Language (SQL).
   d. Model relational databases using Microsoft Visio.
   e. Design practical databases using Microsoft SQL serverExpress 2012.

6. **Grading and Assessment**

**Grade Scale**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A/A-</td>
<td>≥ 90%</td>
</tr>
<tr>
<td>B+/B/B-</td>
<td>80% to &lt; 90%</td>
</tr>
<tr>
<td>C+/C/C-</td>
<td>70% to &lt; 80%</td>
</tr>
<tr>
<td>D</td>
<td>60% to &lt; 70%</td>
</tr>
<tr>
<td>F</td>
<td>below 60%</td>
</tr>
</tbody>
</table>

Split between +/- scores will be determined by the instructor based on clustering of scores.

**Grading Distribution**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams (2x25%)</td>
<td>50%</td>
</tr>
<tr>
<td>Quizzes (4x5%)</td>
<td>20%</td>
</tr>
<tr>
<td>Class Exercises (4x5%)</td>
<td>20%</td>
</tr>
<tr>
<td>Group Rating</td>
<td>10%</td>
</tr>
</tbody>
</table>

Students must be officially registered in this course to receive a grade. It is the sole responsibility of the student to verify their own registration status. Specifically, you will not receive a grade if your name does not appear on the official class list. (Don’t wait until the end of the semester to be surprised.) Registration problems should be directed to either the SOM Office of Student Services or the Registrar’s Office. Grading for the course will be based on total points earned by the end of the course.

**Exams:** Midterm exam will cover (approximately) one half of the course material and Final exam will be cumulative. Exams will include materials covered in lectures, book, and other required readings. **Midterm exam will be closed book and closed notes. Final exam will be open book and open notes.**

**Quizzes:** A total of five quizzes will be given throughout the course schedule. Each quiz will consist of approximately 15-20 true/false, multiple choices, fill in the blanks, or short answer type questions based on the topics covered in class. Only your top four scores will be used in the final grade calculation. **Quizzes will be closed book and closed notes.**

**Homework:** There will be no separate homework assignments.

**Class Exercises:** A total of five small exercises will be given throughout the course schedule to do in the class in group. Each exercise will be based on the topics covered in class. Only your top four scores will be
used in the final grade calculation. You will be expected to participate in class discussions and complete in-class exercises. These exercises will be open book and open notes.

**Group Rating:** Team members will rate each other at the end of the course.

**Semester Grade:** Your semester grade will be based on the total points earned on the assignments described above; **no extra credit will be available.** You can request a review of any grade within a week following the assignment of grades. After that period no grade will be revised. You are also encouraged to keep all graded material that is returned to you till after the semester is over and you have checked your final grade. If there is a discrepancy between my records and your scores for any of the graded material at any time, my records will be altered only if you can produce the graded material that I have returned to you as evidence—failing which no changes will be made.

**7. Learning Goals**

**Learning goals for the Undergraduate Programs**

- a. Our students will be competent in their discipline.
- b. Our students will be aware of the uses of technology in business.
- c. Our students will be effective communicators.
- d. Our students will have an interdisciplinary perspective.
- e. Our students will be knowledgeable about global business and trade.
- f. Our students will recognize the importance of ethical decisions.
- g. Our students will be knowledgeable about the legal environment of business.
- h. Our students will be knowledgeable about team dynamics and the characteristics of effective teams.
- i. Our students will understand the value of diversity and the importance of managing diversity in the context of business.
- j. Our students will be critical thinkers.

**Learning Goals of the Information Systems and Operations Management Program**

- a. Apply knowledge of information technology and business functions to understand its application in assessing, designing and improving business processes.
- b. Develop data organization, storage and processing solutions to support organizational needs for information management. They will also have the option of developing skills in the area of supporting decision making through business intelligence solutions.
- c. Use knowledge of computer networks as part of the IT solutions for improving business processes. They will also have option of developing more advanced skills in the areas of network and security.
- d. Effectively manage information technology projects.
- e. Understand the overall systems development life cycle and be able to recommend IT system solutions accordingly. They will also have option of learning appropriate development tools to develop prototype of IT solutions for business management.

**8. Learning Disabilities**

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 703-993-2474, within first two weeks of classes. All academic accommodations must be arranged through the DRC.
9. Other Course Policies
   a. Attendance: Attendance in class is mandatory. If you are absent, it is your responsibility to find out from a classmate what you missed (both course material and announcements).
   b. E-Mail Correspondence: Outside of the designated class time and office hours, e-mail is the easiest and quickest method to contact me. Consistent with federal privacy laws, I do not respond to Non-GMU emails with confidential information.
   c. Laptops and hand-held devices: Technology can greatly assist learning, but it can also be a distraction. Electronic devices should strictly be used for class related activities such as taking notes, following lecture slides or working on in-class exercises. All mobile phones must be in silent mode during class time.
   d. Class Etiquette: Be courteous to and respectful to your instructor and your colleagues in class! Talking, texting, playing on laptop, doing work from other classes, or anything else that detracts from the in-class learning environment is not acceptable in the class. Please do not bring and eat foods during class.

10. Course Schedule *

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topics</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>27-Aug</td>
<td>Tue</td>
<td>Ch. 1: Database Fundamentals</td>
<td>Group list Due</td>
</tr>
<tr>
<td>3-Sep</td>
<td>Tue</td>
<td>Ch. 1: Database Fundamentals</td>
<td>Quiz #1 on Ch1</td>
</tr>
<tr>
<td>10-Sep</td>
<td>Tue</td>
<td>Ch. 2: The Relational Model</td>
<td>Quiz #2 on Ch1 &amp; 2</td>
</tr>
<tr>
<td>17-Sep</td>
<td>Tue</td>
<td>Ch. 2: The Relational Model</td>
<td>Group Exercise #1 on Ch 1 &amp; 2</td>
</tr>
<tr>
<td>24-Sep</td>
<td>Tue</td>
<td>Ch. 3: Structured Query Language (SQL)</td>
<td>Quiz #3 on Ch3</td>
</tr>
<tr>
<td>1-Oct</td>
<td>Tue</td>
<td>Ch. 3: Structured Query Language (SQL)</td>
<td>Group Exercise #2 on Ch3</td>
</tr>
<tr>
<td>8-Oct</td>
<td>Tue</td>
<td>Ch. 4: Data Modeling</td>
<td>Quiz #3 on Ch3</td>
</tr>
<tr>
<td>15-Oct</td>
<td>Tue</td>
<td>NO CLASS</td>
<td></td>
</tr>
<tr>
<td>22-Oct</td>
<td>Tue</td>
<td>Midterm</td>
<td>Ch1-3</td>
</tr>
<tr>
<td>29-Oct</td>
<td>Tue</td>
<td>Ch 4: Data Modeling</td>
<td>Group Exercise #3 on Ch4</td>
</tr>
<tr>
<td>5-Nov</td>
<td>Tue</td>
<td>Ch 5: Database Design</td>
<td>Quiz #4 on Ch4</td>
</tr>
<tr>
<td>12-Nov</td>
<td>Tue</td>
<td>Ch 5: Database Design</td>
<td>Group Exercise #4 on Ch5</td>
</tr>
<tr>
<td>19-Nov</td>
<td>Tue</td>
<td>Ch 6: Database Administration</td>
<td>Quiz #5 on Ch6</td>
</tr>
<tr>
<td>26-Nov</td>
<td>Tue</td>
<td>Ch 6: Database Administration</td>
<td>Group Exercise #5 on Ch6</td>
</tr>
<tr>
<td>3-Dec</td>
<td>Tue</td>
<td>Final Exam Review</td>
<td>Team Rating due</td>
</tr>
<tr>
<td>10-Dec</td>
<td>Tue</td>
<td>Final Exam</td>
<td>Ch1-6</td>
</tr>
</tbody>
</table>

* The schedule is tentative and subject to change.

** You are encouraged to bring your laptop to class.

11. Academic Integrity
GMU is an Honor Code university; all students are responsible for knowing and following the GMU Honor Code Statement: “Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.” In the event of a violation of the GMU Honor Code, the violating student will be reported to the GMU Honor Committee. Another aspect of academic integrity is the free play of ideas. Discussions are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and
traditions. Please refer to http://honorcode.gmu.edu for further details. When in doubt (of any kind), please ask the instructor for guidance and clarification.

HONOR CODE

To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the GMU community and with the desire for greater academic and personal achievement, we, the student members of the University Community have set forth this honor code:
Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work. The Honor Code of George Mason University deals specifically with cheating and attempted cheating, plagiarism, lying, and stealing.

A. Cheating encompasses the following:
1. The willful giving or receiving of an unauthorized, unfair, dishonest, or unscrupulous advantage in academic work over other students.
2. The above may be accomplished by any means whatsoever, including but not limited to the following: fraud; duress; deception; theft; trick; talking; signs; gestures; copying from another student; and the unauthorized use of study aids, memoranda, books, data, or other information.
3. Attempted cheating.

B. Plagiarism encompasses the following:
1. Presenting as one’s own the words, the work, or the opinions of someone else without proper acknowledgment.
2. Borrowing the sequence of ideas, the arrangement of material, or the pattern of thought of someone else without proper acknowledgment.

C. Lying encompasses the following:
The willful and knowledgeable telling of an untruth, as well as any form of deceit, attempted deceit, or fraud in an oral or written statement relating to academic work. This includes but is not limited to the following:
1. Lying to administration and faculty members.
2. Falsifying any university document by mutilation, addition, or deletion.
3. Lying to Honor Committee members and counsels during investigation and hearing. This may constitute a second charge, with the committee members who acted judges during that specific hearing acting as accusers.

D. Stealing encompasses the following:
Taking or appropriating without the permission to do so, and with the to keep or to make use of wrongfully, property belonging to any of the George Mason University community or any property located on the university campus. This includes misuse of university computer resources (see the Responsible Use of Computing Policy section in the “General Policies” chapter). This section is relevant only to academic work and related materials.

Source: George Mason University Faculty Handbook http://www.gmu.edu/facstaff/handbook/aD.html