School of Management
MIS 430: Advanced Database and Data Warehousing

Instructor
Dr. Kumar Mehta
Office: Enterprise Hall 145
Contact: e-mail: kmehta1@gmu.edu; Off: (703) 993-9412; Office Hours: Tue/Wed 2:00 to 4:00 p.m. or by appointment

Textbook
Electronic material will be made available through blackboard, and class notes.
There is no assigned book for this course -- you will be provided with support electronic materials, and it is strongly recommended that you take class notes and ask questions.

Course Description
The first half of this course builds on concepts covered in MIS 310 (Database Management Systems). To help deal with scale of database operations, this course will deal with advanced topics of physical database architecture, design, and implementation. Focusing on translating logical designs to physical implementations, topics will address issues with efficiency of database operations and ensuring data quality.

The second half of the course introduces the students to the business intelligence aspect of the data management in large organizations. Databases in organizations are focused on managing data collection and storage for assisting day to day operations, such as order processing, inventory management, payroll, etc. However, these databases cannot provide insight required for strategic decision making. For e.g., helping managers in deciding where to open the next store? Which customer segment to target for which types of promotion? Furthermore, unlike day-to-day operations, strategic decision making requires access to large amounts of historical information. Additionally, most of these queries are ad-hoc queries and involve large number of attributes. These criterions make transactional databases ineffectual in providing dedicated support for such decision making. Data warehousing focuses on providing just this support.

Learning Objectives
This course aims to provide a comprehensive understanding of data warehousing, with specific focus on:
- Understanding the difference in the role of transaction databases and data warehouses, their objectives and how it influences the process of design and implementation of each
- Advanced Topics in Database Design and Implementation
- Architecture of data warehouses
- Design approaches for data warehousing, with specific focus on relational data warehouse design
- Implementation and operationalization of data warehouses
- Use of data warehouses - Reporting and OLAP

Grading
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. Final course letter grade assignments, will be as follows:

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<tr>
<th>Grade</th>
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<tr>
<td>A</td>
<td>93% - 100%</td>
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<td>A-</td>
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<td>B+</td>
<td>87% - 89.99%</td>
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<td>B</td>
<td>83% - 87.99%</td>
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<td>B-</td>
<td>80% - 82.99%</td>
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<td>F</td>
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Mid Term Exam = 20%
Final Exam = 35%
4 out of 5 Quizzes = 20%
5 Assignments = 25%
Total = 100%

Attendance
Class Attendance is your responsibility, and you are solely responsible for all assignments, material presented/provided and announcements made in class.

Make up Exams/Quizzes
Barring extenuating circumstances no exceptions will be made for absence. Final exam due date/time will not be rescheduled.
Adequate proof needs provided to prove extenuating circumstances. Work related time conflict does not constitute extenuating circumstance. If you have any work related time conflict, you need to resolve it in advance.
Disability
All academic accommodations due to disability must be arranged through the Disability Resource Center (DRC). If you are a student with a disability and you require academic accommodations, please contact the DRC at 993-2474. I will cooperate fully with the DRC to accommodate a student’s special needs.

Honor Code
GMU students are expected to be familiar with the Honor Code of George Mason University and with its specific application to exams, assignments, and class work required by faculty in the program. If you are in doubt about how the honor system applies to a particular assignment or class, it is your responsibility to clarify the requirements with the professor. Concerns about breaches of the honor system may be discussed with the professor, or with the Associate Dean of the School of Management. More detail on honor code provided on class website.

Communications
All communications from me to you will be directed via e-mail. I will address all of my e-mails to your @gmu.edu e-mail address for concerns of privacy and confidentiality. If you use another e-mail account as your primary e-mail, please be sure to forward your gmu e-mail to that account. Your communications with me – e-mail is the preferred channel of communication, since it ensures your accessibility to me irrespective of where I may be. You should always feel free to send me an e-mail, no matter if it is a question, comment, concern, something interesting you came across (related to class or otherwise), etc. Basically – when in doubt, decide in favor of clicking the “send” button.

Quiz/Homework/Exam Schedule

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<tr>
<th>Date</th>
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<tbody>
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<td>Aug 29</td>
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<td>Oct 24</td>
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<tr>
<td>Sept 5</td>
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<td>Oct 31</td>
<td>HW 3 Due</td>
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<tr>
<td>12</td>
<td>Quiz 1</td>
<td>Nov 7</td>
<td>Quiz 4</td>
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<tr>
<td>19</td>
<td>HW 1 Due</td>
<td>Nov 14</td>
<td>HW 4 Due</td>
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<td>26</td>
<td>Quiz 2</td>
<td>Nov 21</td>
<td>No Class – Thanksgiving</td>
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<td>Oct 3</td>
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<td>Nov 28</td>
<td>Quiz 5</td>
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<td>10</td>
<td>Quiz 3/HW 2 Due</td>
<td>Dec 5</td>
<td>HW 5 Due</td>
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<td>17</td>
<td>Mid-Term</td>
<td>Dec 12</td>
<td>FINAL EXAM (begins 4:30 PM)</td>
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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