MIS 6309 — Business Data Warehousing

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Office hours:	After the class on Fri, or call my mobile phone any time for appointment[++]		
Course website:	On eLearning		
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Text

- *The Data Warehouse Toolkit* (3/e) by Kimball and Ross.
- *Data Warehouse Design: Modern Principles and Methodologies* (Paperback) by Golfarelli and Rizzi.

Software

- You will need *MS SQL Server 2012*, which will be provided to you through University's DreamSpark arrangement. I expect you to have a Windows laptop capable of running this software. WE DO NOT USE SAP BW, and THIS SECTION DOESN'T COUNT TOWARDS SAP CERTIFACTION.

Course material

I have prepared an extensive set of course notes for this class. All my slides will be posted on the eLearning site. My lecture notes are not intended to substitute regular reading from the textbooks; they are there merely to act as a summary of important topics/issues/concepts. These notes are meant to save you, partly if not fully, from note-taking in class, so that you can make better use of that time by listening, asking questions, and participating in class discussions. *In addition, a day-by-day schedule, all supplementary materials, and solutions will be posted on the class website.*

Course description

This course provides the student with in-depth knowledge of data warehousing principles and techniques. It introduces topics such as:

- *Information systems fundamentals*
- *Data analytics in MS Excel/Tableau*
- *E-R model, RDBMS Fundamentals, and SQL*
- *ROLAP in SQL*
- *Data Warehouse Architecture*
- *SSIS*
- *SSAS Cubes and MOLAP*
- *Dimensional Fact Model*
- *Star, snowflake, and constellation schema*
- *Case studies and application examples from Kimball and Ross' text*

[++] Grade-related conversations can't be done over phone/e-mail, so you must see me in person.

Course motivation
We live in a very different world today than that our parents lived in. We use cars that talk and routinely communicate with a satellite. Low-latency trading drives our financial markets. Cloud computing is no longer a buzz word; it's a part of our day-to-day life. The world has become more connected than ever. The speeds of our networks have increased. And, e-commerce has changed the way we buy everything—books, clothes, computers, games, movies, music, our airline tickets, and even grocery items. Recently, we have moved from email to social media and messaging, from PCs to mobile apps. With all these changes has sufaced a tremendous appetite for analyzing large volumes of data. Corporations, seeking to benefit from our online trails, are deploying cutting edge technologies to mine data from both internal and external sources for better decision-making. Business Intelligence has become more critical than even in every sphere of the business—sales, inventory, accounting & finance, production, and procurement—and in every industry imaginable—retailing, transportation, healthcare, education, insurance, etc. This course is intended to provide an understanding some of the technologies that facilitate accurate and reliable business reporting. I strongly recommend that you attend each class and work hard on your assignments. Active participation in lectures will help you learn the basics, and hands-on work with SQL Server will contribute immensely towards succeeding in a demanding job market.

Classroom expectations
Please bring copies of all the posted lecture notes to every class. *Please display your nametag at each session.* Please turn off (or put in the silent mode) your cell phone during class times. You may bring your laptop computer to the class; however, restrict its use to class-related purposes only. Also, turn off your laptop's speakers before starting to use it.

Team presentation
Please form teams of 5. As far as the presentation is concerned, *I will provide more details later.*

Team homeworks
You are going to get a number of team homeworks. See the class website for information.

Exams
We will have both a midsem exam and a final exam. The final exam will focus on topics covered after the midsem exam. *I will provide more details later.* The exams are closed book/note. No computers/phones are allowed. I will, however, allow you to bring a letter-sized cheat sheet; you can write on both sides of the sheet.

Grading

Team Presentation	25%
Team Homeworks	25%
Exams	25% + 25% = 50%

Your letter grade will depend on your performance vis-à-vis your classmates'.

Graded work, feedback, and solutions
Graded work (exams and homeworks) will be returned promptly to you. In some cases, solutions will be posted on the class website. If you want anything regraded, please write a separate memo (not email) describing your concerns and hand it to me along with the work that you want to be regraded.

Please do not write anything on the graded work itself. Writing on a graded work will be treated as academic dishonesty, as would be any violation of the university's honor code.

Schedule

Please inform me immediately if you notice any errors/omissions.

W1	Aug 26	*Introduction*	
		Information Systems Basics	
W2	Sep 02	*Data Analytics in MS Excel*	
		Visualization in Tableau	
W3	Sep 09	*E-R Model, Normalization*	
		SQL Server Basics	***Submit HW1***
W4	Sep 16	*SQL Queries*	
		SQL Queries	
W5	Sep 23	*Data Warehousing Fundamentals (Ch.1 of G-R)*	
		Data Warehousing Architecture (Ch.1 of G-R)	
W6	Sep 30	*DFM (Ch.5 of G-R)*	***Submit HW2***
		DFM (Ch.5 of G-R)	
W7	Oct 07	*Star/Snowflake Schema (Ch.1 & 3 of K-R)*	
		Star/Snowflake Schema (Ch.1 & 3 of K-R)	
W8	Oct 14	*Midterm Review*	***Submit HW3***
		Exam-1	
W9	Oct 21	*Midterm Feedback*	
		Discussion on Presentations	
W10	Oct 28	*BI in SQL Server: SSIS Demo*	
		BI in SQL Server: SSAS Demo	
W11	Nov 04	*Meet Teams 1-7*	***Submit HW 4 & 5***
		Meet Teams 8-14	
W12	Nov 11	***Team Presentations***	***Teams 1, 2, 3, 4***
		Team Presentations	***Teams 5, 6, 7***
W13	Nov 18	***Team Presentations***	***Teams 8, 9, 10, 11***
		Team Presentations	***Teams 12, 13, 14***
W14	Dec 02	*Presentation Review*	
		Final Review	
W15	Dec 09	***Exam-2 (Not comprehensive)***	

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.