MIS 6309 – Academic Calendar and Course Outline - Fall 2015

Instructor Name: Kashif Saeed   Instructor Email: kxs147230@utdallas.edu Office: 3.604
Teaching Assistant: Lohit Pratap Singh   TA Email: lps140030@utdallas.edu

Disclaimer:

The course outline shown in this document is the closest to what the instructor intends to cover this semester. The schedule and assignment dates shown are tentative and may change. Please refer to eLearning for the correct Assignment dates and due dates. Topics mentioned in the course outline may change slightly, depending upon the class size, pace, and student's ability to grasp the concepts. The content covered in the class is a combination of theory, real experiences, best practices, industry trends, hands-on exercises, and practical assignments. Please note that this is **not a workshop/certification style class**.

Pre-Requisites:

Though prior knowledge of Databases and SQL is not required, it is highly recommended. Students with no prior knowledge of database concepts will need to work hard. This is not an easy course and you will have to work hard to succeed.

The course prefers that students use a Windows Laptop.

Description:

The course covers traditional (non-SAP) data warehouse concepts. We heavily use Business Objects, an SAP tool, for the course.

Data warehouse projects have 3 major components; Data modeling, ETL, and Business Intelligence. This course is focused on teaching you the Data Modeling and Business Intelligence components. ETL is not covered in this class.

The overall course is divided into two parts:

1- Databases and data modeling foundation (5-6 classes)

2- Business Intelligence and Data Visualization (7-8 classes)

To be successful in Business Intelligence, you must have a solid foundation in databases and data modeling. This class provides you the foundation that you can build upon.

Class	Date	Topics to be covered	Description/Tasks	Assignments
1	8/28/2105	• Introductions and course details • Syllabus Overview and Expectations • Introduction to Data Warehousing ○ The Big picture	**Tasks:** - Install SQL Server Express - Install Erwin * Install Instructions will be shared.	None

		- o Traditional Data Warehouses – Conceptual Diagram - o Lifecycle - o Do's and Don'ts - Database Refresher concepts		
2	9/04/2015	- Database refresher concepts - continued - ER Modeling and database design - Classroom Examples and Hands-on Book: Database Concepts by Kroenke and Auer	The purpose of this class is to refresh database concepts so that those with no database background can catch up with the rest of the class. Students will learn ER modeling and how ER models are translated into physical database design.	**Assignment # 1 Creating ER model and implementing it using Erwin and SQL Server Express.** Due Date- 9/18
3	9/11/2015	- Case for Dimensional Modeling - ER vs. Dimensional Modeling - Dimension and Fact tables - Bus Architecture - Conformed dimensions - Time Dimension - Null handling - Classroom Hands-on: Design your Time and Conformed Dimensions. Book: Data Warehouse Lifecycle Toolkit by Ralph Kimball	Starting from 3rd class we start Dimensional Modeling using Ralph Kimball methodologies. We will spend 3 classes on Dimensional Modeling.	
4	9/18/2015	- Slowly Changing Dimensions - Type 1, Type 2, and Type 3 - Classroom Hands-on – Design a Type 2 SCD - Role Playing Dimensions - Fact tables 4 Step Design process - Classroom Hands-on – Design your first Fact table - Classroom Hands-on 2 – Design a multi-star schema		**Assignment#2 Creating a Dimensional Model** Modeling portion of the assignment will be done using Erwin. The sample dimensional model will be implemented and populated in SQL

		Dimensional Model.		Server Express. Due date:10/2
5	9/25/2015	• Fact less facts • HR Data warehouse review • Snapshot facts • Classroom Hands-on – Design a fact less fact table		

6	10/2/2015	BI - The Big Picture
		• BI Market Analysis
		• Business Objects
		   Philosophy
		• Business Objects tool suite
		• Business Objects timeline
		• Deployment overview
		• Job roles in Business
		   Objects
		• Career options for me in BI
		• Latest trend in BI job
		   market
			First class on Business Objects will cover the big picture explaining the tool suite, when to use which tool, the job roles, deployment scenarios, and the architecture of Business Objects. We will also talk about the career options and latest trends in BI job market.	

7	10/10/2015 (Saturday @ 10am)
	
	Location: SLC 1.102
		• **Mid-term Exam**
		• What is a Universe
		• A well designed universe
		• Universe Development
		   Process
		• Local vs. Repository
		   Universes
		• Getting familiar with the
		   Universe design tools
		• Joins
		• Defining Objects and
		   Classes
		• Classroom Hands-on –
		   Creating my first Universe
			All Universe design work will utilize MS Access databases. However, the instructor will give you plenty of information on steps involved with Oracle and SQL Server based universes.	

8	10/16/2015	• What are Loops
		• OLTP vs. Star schema based
		   universes
		• Resolving Loops
		• Classroom Hands-on -
		   Create a Dimensional
		   Model schema based
		   Universe and Resolve loops
		• Classroom Hands-on –
		   Create an ER Model
		   schema based Universe
		   and Resolve loops
			This class will cover the most important topic in Universe design – loops and how to resolve them.	**Assignment#3 Universe Design**
				
				Due date: 11/06

9	10/23/2015	• Identifying Chasm traps • Resolving Chasm traps • Identifying Fan traps • Resolving Fan traps • Classroom Hands-on - Resolve traps	This class will cover Traps and how to resolve them. We will do hands-on exercises in the class.	
10	10/30/2015	• Hierarchies • Universe level restrictions • Row level security • Using IDT (Information Design Tool) • Classroom Hands-on – Building a Universe with IDT		
11	11/06/2015	• Web Intelligence usage as reporting tool • Building reports with conditions • Publishing and sharing reports • Scheduling reports • Sections, breaks, calculations • Report level filters • Classroom Hands-on • Webi Report variables • Webi Multiple data providers • Classroom Hands-on – variables and Multiple DP	The purpose of this class is to teach fundamentals of reporting using Web Intelligence. We will use examples to cover the concept.	
12	11/13/2015	• Any remaining topics in Webi • Tableau background • Getting started • Connecting to data sources • Creating TDS and TDE files • Publishing data sources • Filtering and Quick Filtering	Most topics covered in Tableau will have classroom based exercises. Students will be required to bring their laptops to the class.	**Assignment # 4 – building report using Web Intelligence and Tableau** Due Date: 11/29
13	11/20/2015	• Groups • Hierarchies • Sets • Working with Dates		
14	11/27/2015	**Thanksgiving Break**		
15	12/04/2015	• Building dashboards • Interactivity using actions		

16	12/12/2015 (Saturday 10 am) Location: Testing Center	• **Final Exam** • Interview Guidance and Strategies @ noon (Optional)	Final exam for both sections together.	
		• Sharing your dashboards • Data Blending		

Grading and Exam Information:

Weights

Assignments	30%
Mid-term Exam	25%
Quizzes (3/3)	15%
Final Exam	30%

Grading Scale

Scaled Score	Letter Grade
93-100	A
88-92.9	A-
84-87.9	B+
80-83.9	B
77-79.9	B-
74-76.9	C+
70-73.9	C
65-69.9	C-
Less than 65	F

*Grade curving is at the discretion of the instructor.

Midterm Exam:

- Topics: ER and Dimensional Modeling Design questions

- Style: Descriptive/Design based questions

Final Exam:

- Topics: Comprehensive

- Style: Multiple Choice Questions

Optional Textbooks:

These books are not required for the course. However, for those who prefer to read from the book can use these books as reference.

1. Database Refresher and ER Modeling: Database Concepts by David M. Kroenke & David Auer
2. Dimensional Modeling: Data warehouse Lifecycle Toolkit by Ralph Kimball
3. Business Objects: SAP Business Objects BI4 – The Complete Reference by Cindi Howson

Software Used for the Course:

The course recommends using a Windows laptop. We will use the following software:

1. Erwin Community Edition
   Download Link: http://erwin.com/products/data-modeler/community-edition/

2. SQL Server Express 2014
   Download Link: http://www.microsoft.com/en-us/server-cloud/products/sql-server-editions/sql-server-express.aspx

3. Microsoft Access
   Need to be purchased. University has discounted price.

4. **SAP Business Objects BI4.1**
   Download Link: Will be posted on eLearning

5. **Tableau Client** (the version provided by Tableau)
   Download Link: Will be posted on eLearning

The class covers using SAP Business Objects and Tableau in detail and students will be taught to use these tools in class. The other tools mentioned above will be required to complete the first two assignments and will not be covered in the class. Students will help each other using the discussion forum to learn these tools. The TA will also be available to help answer questions if you're stuck on how to do a specific task using these tools.

Software Installation:

The instructor will provide Software installation instructions to the class. However, given the variety of hardware and OS configurations for every laptop, there always are unforeseen issues with the installs which cannot be tested beforehand. The instructor and the TA will do their best to help you, but it is your responsibility to take ownership in case your machine runs into installation related issues.

Office Hours:

By Appointment only.

TA Office Hours:

Will be updated later and will be communicated via eLearning.

Course & Instructor Policies

This class assumes the student is working in a business environment. Considerable attention (and grading premium) will be given to following directions (both written and in class). Considerable attention (and grading premium) will be given to following directions (both written and in class). All assignments will be graded based upon the appropriateness of its presentation as well as on its content. Whining is discouraged.

eLearning:

Most communications for this class will be through eLearning. All questions (except those of a personal nature) should be posted on the eLearning Discussion Board. Changes: This course will be very dynamic, so EXPECT changes. Changes in assignments or schedules will be posted on ELearning. It is the student's responsibility to keep up with the changes that are posted on ELearning.

Assignments:

All Assignments will be submitted on eLearning. Follow the instructions in the assignment for submission and deadlines. In case if there is a discrepancy in Assignment deadline between eLearning and the Syllabus, follow the instructions and deadlines on eLearning. Assignments submitted after the deadline will be considered late. A penalty of 10% of the assignment value per day (including weekends) is assessed on late assignments beginning on the day due.

Attendance:

Your class attendance and participation is highly recommended for this course. There is no make-up for missed in-class assignments. Much of the content of course will be covered in class.

Text Exam:

A picture ID will be required for each student. No Scantron sheets needed.

If you miss the text exam for any reason, you will take a makeup exam that will include significant discussion, essay, and short answer questions. If you have a time conflict you must notify the instructor in advance for rescheduling consideration.

WORKING TOGETHER on Individual Assignments:

This course will have a considerable amount of computing work for application assignments. It is acceptable to work together in how to use computers and applications. Each student, however, is expected to do their own work on the "individual" assignments. Copying another student's work (computer files) or having another person do your work is scholastic dishonesty (see below) and will be dealt with accordingly.

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, A to Z Guide, which is provided to all registered students each academic year. The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3, and in Title V, Rules on Student Services and Activities of the university's Handbook of Operating Procedures. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Specifically on "individual assignments", copying another students computer files or having another person do your work could result a grade of F and/or expulsion from the University.

Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's Handbook of Operating Procedures.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be

resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:

The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind.

Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation.

Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to

complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment. If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

Cell Phone Use in Class:

Students are not allowed to use Cell phone for text messaging and/or voice calls. In addition, the phone must be on vibrate during the class. Students are welcome to leave the class to attend important phone calls or messages. ***Cell phone usage will not be allowed during exams.***

These descriptions and timelines are subject to change at the discretion of the Professor.