Course Syllabus

Course Information

Course:	ACCT / MIS 6309 Business Data Warehousing
Term:	Fall 2016
Section:	003
Meets:	Saturday 10:00 am to 12:45 pm JSOM 1.102

Professor Contact Information

Instructor:	Kevin R. Crook
Email:	Kevin.Crook@utdallas.edu
Office Location:	JSOM 3.604
Office Hours:	Friday 6:45 pm to 7:45 pm Saturday 12:45 pm to 1:45 pm

Course Pre-requisites, Co-requisites, and/or Other Restrictions

While this course has no pre-requisites nor co-requisites, students without prior Information Technology exposure and/or database exposure will face a steeper learning curve.

Course Description

This course provides the student with in depth knowledge of Data Warehousing principles, Data Warehouse techniques, and Business Intelligence systems. The course introduces the topics of Data Warehouse design, Extract-Transform-Load (ETL), Data Cubes, and Data Marts. Students will create Business Intelligence using Data Warehouses with several OLAP and analytical tools.

This course section counts towards SAP Certification. The primary SAP product used in this course will be SAP Business Objects. Note that this course will not use SAP BW as extensively as other sections.

Student Learning Objectives/Outcomes

- Students will be able to describe architecture and methods for storage and provision of enterprise data.
- Students will develop competency in query development and essential business intelligence reporting.
- Students will demonstrate competency in data modeling, including dimensional modeling.

- Students will learn steps involved in development of an enterprise data warehousing solution and at least one BI tool from end-to-end perspective.

Required Textbooks and Materials

There is no required textbook for this course. Instructor will provide materials in PDF format for students to download. Materials will include academic papers in the fields of Relational Database Theory, Entity-Relationship Modeling, Data Warehousing, Business Intelligence, and Data Visualization, instructor developed slides, instructor developed exercises and solutions, and vendor supplied materials.

A list of recommended books by subject area will be presented to the students at the first class meeting and also uploaded to eLearning. Almost all of these books are available free in electronic format from the UTD library website.

Assignments & Academic Calendar

Week Number Start Date	Topics Covered in Class	Assignments Due
Week 1 Saturday August 27th	Introduction to the Course Overview / Refresher of Relational Database Theory Overview / Refresher of Data Modeling in 3rd Normal Form (3NF) Using Entity Relationship Diagramming (ERD) in ERWin	
Week 2 Saturday September 3rd	Data Warehousing Design Topics include: Introduction, Data Marts, Inmon's Methodology, Kimball's Methodology, Dimensional Design, Star Schema, Dimension Tables, Keys and History, Fact Tables, Surrogate Keys vs Natural Keys, Rich Dimensions, Slowly Changing Dimensions (Type 1, 2, 3, Hybrid), Multiple Stars, Conformed Dimensions, Snowflakes, Outriggers, OLAP Cubes, 3D, Hypercubes, Slicing, Dicing, Drill Up / Down, Rollup, Pivot Variations of Cube Architectures: MOLAP Cubes, ROLAP Cubes, HOLAP Cubes, WOLAP Cubes, DOLAP Cubes, RTOLAP Cubes	Assignment 1 - Software Loading Due Saturday September 3rd at 11:59 pm

Week 3 Saturday September 10th	Data Warehousing Design (continued)	Assignment 2 – Data Modeling in 3NF Due Saturday September 10th at 11:59 pm
Week 4 Saturday September 17th	Data Warehousing Design (continued)	Assignment 3 – Data Warehouse Design (part 1) Due Saturday September 17th at 11:59 pm
Week 5 Saturday September 24th	Data Warehousing Design (continued)	Assignment 4 – Data Warehouse Design (part 2) Due Saturday September 24th at 11:59 pm
Week 6 Saturday October 1st	Business Case Examples of Data Warehouse Designs	Assignment 5 – Data Warehouse Design (part 3) Due Saturday October 1st at 11:59 pm
Week 7 Saturday October 8th	Architectures for Data Warehousing Topics include: General Architecture Principles, SAP BW, Teradata, Hadoop	
Week 8 Saturday October 15th	Exam 1 (covers up to and including Business Case Examples of Data Warehouse Designs)	
Week 9 Saturday October 22nd	Extract, Transform, Load (ETL)	Project 1 – Data Warehouse Design Due Saturday October 22nd at 11:59 pm
Week 10 Saturday October 29th	Data Visualization using Tableau Topics include: Overview of Data Visualization, Getting Data: Connections, Extracts, Metadata, Joins, Blends, Filters,	Assignment 6 – Data Visualization (part 1) Due Saturday October 29th at 11:59 pm

	Common Visualizations; Bar Charts, Treemaps, Area Charts, Pie Charts, Circle Charts, Box and Whisker, Histograms, Scatterplots, Line Charts, Geographic Visualizations, Dashboards, Storyboards	
Week 11 Saturday November 5th	Data Visualization using Tableau (continued)	Assignment 7 – Data Visualization (part 2) Due Saturday November 5th at 11:59 pm
Week 12 Saturday November 12th	Business Intelligence using SAP Business Objects Topics include: Universe Design: Connections, Data Foundations, Business Layer, Folders, Dimensions, Measures OLAP Universes: OLAP Cube Queries NoSQL Data Queries from Hadoop	Assignment 8 – Business Intelligence (part 1) Due Saturday November 12th at 11:59 pm
Week 13 Saturday November 19th	Business Intelligence using SAP Business Objects (continued)	Assignment 9 – Business Intelligence (part 2) Due Saturday November 19th at 11:59 pm
Week 14 Saturday November 26th	Fall Break – No Classes	
Week 15 Saturday December 3rd	Exam 2 (Material Covered Since Exam 1)	Project 2 – Data Visualization Due Wednesday December 7th at 11:59 pm

Grading Policy

Grading Scheme

Assignments	10 %
Project 1	5 %
Project 2	5 %
Exam 1	40 %
Exam 2	40 %
Total	**100 %**

Grading Scale for Letter Grades
(Please note that undergraduate courses allow for a grade of A+, but graduate courses do not.)

93 – 100	A
90 – 92	A-
87 – 89	B+
83 – 86	B
80 – 82	B-
77 – 79	C+
73 – 76	C
70 – 72	C-
67 – 69	D+
63 – 66	D
60 – 62	D-
0 – 59	F

Course & Instructor Policies

- Make-up Exams – restricted to documented emergencies. Make-up exams will be in essay format and content will differ from the regular exams. Since make-up exams will differ in content, no curve fitting may be applied.
- Extra Credit – no extra credit assignments are available.
- Class Attendance – required, except for documented emergencies. Please be on-time and remain until class is dismissed.
- Late Work – reduced by 10% per 24 hour period.
- Instructor Response Policy – instructor will respond within 48 hours, excluding holidays and weekends, and breaks.
- eLearning – will be used for class content and any changes to class content.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

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.