ISTM6211 – Database and Data Warehousing for Analytics  
Spring 2017

Schedule: Tuesday 7:10 – 9:40 PM (Funger Hall, Duques 351)

Instructor: Margherita Bruni, MS, PMP, CISSP, ITIL
mbruni@gwu.edu  200-492-5377

Course Description:
The course provides an introduction to relational databases, data warehousing (DW), dimensional data modeling, Extract Transform Load (ETL) and Business Intelligence (BI). The course will be based on case studies, industry software based labs, and a design project. Over the 15 weeks, students will spend approximately 2 hours (100 minutes) per week in lecture and 1 hour (50 minutes) per week in discussion or lab work (37.5 hours per semester). Homework and other out-of-class work is estimated at around 300 minutes per week, including final project preparation (75 hours for the semester). The course includes a final exam for which approximately 10 hours of review is expected.

Course Objectives:
The objective of this course is to provide students with knowledge of techniques, methodologies, and tools used in data warehousing. The course will cover the various phases of the data warehouse lifecycle and design. An overview of current and emerging technologies will be introduced and discussed.

Software:
Microsoft Visio, Access and Tableau Software. Please note that Visio and Access are available in most computer labs on campus, and use of the software in this course is required. Other specific BI/DW software will be leveraged over the web and installed in class on personal laptops (Windows OS required).

References:
Database Systems: Introduction to Databases and Data Warehouses
Nenad Jucik and Susan Vrbsky
Pearson

Building the Data Warehouse, Fourth Edition
William H. Inmon
Wiley

The Data Warehouse Lifecycle Toolkit, 2nd Edition
Ralph Kimball, Margy Ross, Warren Thornthwaite, Joy Mundy and Bob Becker
Wiley

The Data Warehouse Toolkit
Ralph Kimball, Margy Ross
Wiley

Agile Data Warehousing
Ralph Hughes
Lectures:
All lecture notes will be available on Blackboard. Articles can be retrieved via Google search. You are expected to attend all classes, and will be responsible for assignments due on the days you do not attend class.

Grading:
The course grade will be a weighted average of individual or group assignments, labs, project and final exam. The relative importance of the different components is given below.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>In-class Exercises, Labs, Homework</td>
<td>33.33 %</td>
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<tr>
<td>Project</td>
<td>33.33 %</td>
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<tr>
<td>Mid-Term Exam</td>
<td>33.33 %</td>
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Project:
The course will have a group project. The objective of the project is to design and build a reporting application off a data mart to provide analytics to business users. The project deliverables will include project documents and presentation. A list of deliverables for the project and their due dates will be distributed during the course.

Assignments and In-Class Exercises/Labs:
Assignments will be based on material covered in the lectures, articles, and exercises. Assignments may include discussions, quizzes, and exercises based on techniques learned in class. All assignments, unless otherwise stated, must be submitted electronically in Blackboard (no emails) AND hand delivered hard copy before class starts. Homework assignments will be due BEFORE the start of class. Late assignments will be penalized. If you are away and cannot attend class you are still required to submit your assignment on time.

Please note the following assignment and in-class exercises rules:

1. Name your homework (hard copy and files) in the following way:

   **Assignment_Number_Your_FIRST_AND_LAST_NAME**

2. Assignments are due BEFORE class - **YOU MUST BRING IN A LEGIBLE HARD COPY**
3. Assignment number and name should be entered on top right of page
4. Assignments must also be uploaded in the appropriate location on blackboard
5. No cover page is necessary for assignment hard copies
6. No comments are necessary for uploaded assignments
7. Late Assignments will be penalized **(-1 for each day they are late)**
8. For **group assignment**, each group member must upload a soft copy though only 1 hard copy is necessary – include each member name in the hard copy.

**Note:** All examinations, papers, and other graded work products and assignments are to be completed in conformance with The George Washington University Code of Academic Integrity.