

IS 6833 -- Winter/Spring, 2012 Decision Support Systems for Business Intelligence



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GENERAL INFORMATION

Computing Information: <http://www.umsl.edu/technology/>
Computer Lab Information: <http://www.umsl.edu/technology/instructionalcomputing/>
Advanced MIS Lab Information: <http://www.umsl.edu/business/mis/MISlab.html>
Library Information: <http://www.umsl.edu/services/library/library.html>
Campus Events http://www.umsl.edu/~sauterv/analysis/event_schedule.html
Acceptable Usage Policy <http://www.umsl.edu/technology/policy/acceptable.html>
Student Technology Guide <http://www.umsl.edu/technology/publications/stutechguide/>
Student Conduct Code http://www.umsl.edu/studentlife/dsa/student_planner/policies/conductcode.htm
UMSL Home Page <http://www.umsl.edu/>
IS Home Page <http://mis.umsl.edu/>

TEXT: V.L. Sauter, *Decision Support Systems For Business Intelligence*, New York: John Wiley & Sons, 2011. (The book is available in paperback and for the kindle.)

ONLINE MATERIALS

Class Web Site <http://www.umsl.edu/~sauter/DSS/6833start.html>
DSS Current Page <http://www.umsl.edu/~sauter/DSS/current.html>
Readings <http://www.umsl.edu/~sauter/DSS4BI/links.html>
Student Information Form http://www.umsl.edu/~sauter/DSS/student_info.html
Group Evaluation Form http://www.umsl.edu/~sauter/DSS/group_eval.html

PREREQUISITES: LOM 5300: Statistical Analysis

SEMESTER GOALS: Decision Support Systems are tools decision makers use to gain a better understanding of their business. They are the "front-end" technology that is generally associated with a data warehouse, and which provides the modeling and analysis capabilities to help decision makers see avenues through which to gain competitive advantage. As the name suggests, a DSS focuses how models, data, and other analytical tools decision makers might use in the reasoned consideration of the options available to them. In the current environment in most businesses, DSS are being implemented as intranets and so require web-based technologies.

ASSIGNMENTS

INDIVIDUAL ASSIGNMENTS:

1. "NETWORKING" ACTIVITIES:

Learning to network, and learning to learn about new topics is an important part of any IS Professional's life. Therefore, you are going to practice that activity this semester by attending at least three external events. These might include the IS Mentoring Program, the IS Programming Club, the Executive Leadership Institute's events, Student Night Seminars sponsored by the Institute of Internal Auditors and the Information Systems Audit and Control Associations, the local Web Developers Chapter, Saint Louis Visual Basic Users Group, the XPSTL Group, the Wireless SIG or any other IS-related seminar by a campus based or local professional organization (if it is not in this list, be sure to get permission before you go). The base grade will be the percentage of the expected events (3) you attend. So, if you have attended one event, this grade is 33.3, two events, the grade is 66.7, etc. You may attend one additional event for extra credit. A list of campus events, including those that are eligible for networking credit, is available at http://www.umsl.edu/~sauterv/analysis/event_schedule.html. To get credit for attendance, you must complete the required form and have it signed by some official of the organization or

the event.

2. PAPERS:

Each student must complete a term paper investigating how DSS technologies and/or Business Intelligence are used in a particular industry. These papers must discuss how DSS and/or BI are being used, how they help to improve the business, the evidence that exists to support that decision, and the difficulties that managers find in implementing the technology.

Each paper must include at least 20 external references such as journal articles, newspapers, short videos, or relevant websites. Be sure to check high-quality but non-refereed publications such as the *Harvard Business Review*, *Wall Street Journal*, *Economist*, etc for relevant articles. At least 10 of these references must be from refereed journals. Refereed journals assure some level of validation. The best source to find refereed journal articles is ABI-INFORM, available online to UMSL students. To find refereed articles, simply tick the box for "Scholarly journals, including peer-reviewed " while in ABI inform.

The papers should be no longer than 15 pages plus citations. The papers must be typed (or word-processed), double-spaced, numbered, with one-inch margins on all sides. All citations must be complete references to the material. Topics should be approved by the instructor. Final papers are due no later than **Monday, April 16**.

GROUP ASSIGNMENTS

Each student will get "hands-on" experience with the evaluation of a decision support system. Students will work in groups of 2-3. These groups must be identified and reported to the instructor no later than **February 6**.

3. ANALYTICS ASSIGNMENT: The city of St. Louis is the 52nd largest in the nation with a population of 354,361, and its fair share of crime. The goal of this assignment is to use statistical techniques and any data sets *you can find* to predict where crime, specifically homicides, will occur in the city. The ability to accurately predict where crime is likely to occur allows us to deploy our limited city resources more effectively. In particular, you must predict the number and location of the number of unlawful homicides where there is intent to kill in St. Louis City for 2012. This assignment parallels the Analytics X Competition, which tried to predict the homicides in the city of Philadelphia in 2010.

Your main deliverable for this assignment is a presentation that describes how you approached the problem, what data you considered, and your predictions. You may use powerpoint (or equivalent), the web, or a combination for your presentation.

The presentations will all occur on **February 27**, and will be scheduled by lottery. Students must turn in their URL or ppt file to Professor Sauter by **February 26** so it can be linked on the current page. The should be informative and attractive.

4. BI ASSIGNMENT: Reconsider the question of violent crime in St Louis. Create a proposal for how Business Intelligence might be used to understand better the problem. In the proposal, discuss what decisions might be supported with BI, and suggest data that might be maintained, the kinds of dashboards, and the kinds of analytics that could be provided.

The presentations will all occur on **April 30**, and will be scheduled by lottery. Students must turn in their URL or ppt file to Professor Sauter by **April 29** so it can be linked on the current page. The should be informative and attractive.

EXAMS: There will be a midterm and a final exam.

Midterm exam: **Distributed on March 12; Due on March 19**

Final exam: **Distributed on April 30; Due on May 7**

Make-up exams will be provided only if Dr. Sauter has been notified prior to the exam and if you have an acceptable reason for missing the exam. Under all other circumstances, a grade of zero (0) will be assigned.

DROP POLICY: For the purposes of this policy, the "effective drop date" is the date which I am informed of the drop or the actual date of the drop, which ever is **later**. Students can and may inform me by leaving me a note in my mailbox, leaving me a message (on voice mail or email) or by speaking to me in person or over the telephone.

A student may drop this class until **March 19** with a passing grade. (Note the University policy states that you may drop until February 13 without receiving a grade; this policy is simply an extension of the University policy.) Between **March 20 and April 7**, a student will receive either a passing grade (excused) or a failing grade (F) depending upon his or her performance (current grade) in the course. A student may withdraw after **April 7 only with and solely with** the approval of the dean of his or her division. If you want to withdraw after this date, go directly to your dean; do not ask for my signature -- my signature is not needed and I will not provide it. *Under no circumstance* may a student drop this class after **May 2, 2012**.

GRADING POLICY: The following proportions will be used for grading.

Networking Activities	10%
Analytics Assignment	15%
Paper	20%
BI Assignment	15%
Midterm	20%
Final Exam	20%

Approximate letter grades will be assigned when exams and projects are returned. Students should remember, however, that the term average is a weighted average of the numerical grades, not an average of the approximate letter grades.

ACADEMIC HONESTY: According to the University Standard of Conduct, Section 6.0101,

The Board of Curators recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work.

Students have a special obligation to adhere to such standards.

Furthermore, note that the University's *Collected Rules* 200.010 B.1 **REQUIRE** faculty to notify Academic Affairs of suspected cases of dishonesty. It states, "In all cases of academic dishonesty, the instructor shall make an academic judgment about the student's grade on that work and in that course. The instructor shall report the alleged academic dishonesty to the Primary Administrative Officer."

For the purposes of this class, cheating will include: plagiarism (using the writings of another without proper citation), copying of another (either current or past student's work), working with another on individually assigned work or exams, unauthorized marking on a graded paper or exam, or in any other way presenting as one's own work that which is not entirely one's own work. It is *unacceptable* to seek the help of another (whether in the class or not) for help on an exam; this is considered academic dishonesty.

Any student who is caught cheating on any assignment or exam will receive a grade of zero (0) for that assignment or exam. Further, a recommendation will be made to the appropriate university officials that additional disciplinary action be taken.

MY EXPECTATIONS:

- I assume you are here to learn about DSS in preparation for your ultimate career. To accomplish that:
 - You must come to class prepared; you must read and think about the material before you get here.
 - You must demonstrate critical thinking skills.
 - You must participate in class discussions and class activities.
 - You must participate fully in the class project. This means that you will *think about* your project, go to group meetings, participate in the data collection and analysis. Each person must accept the responsibility for the project.
- It is *your responsibility* to ask questions in class or office hours when you are confused.
- I expect you to be courteous and respectful to me and your classmates, and professional to class visitors and to your clients.

- While I will not monitor your use of the computers during class, I expect you to be respectful in your use of the computer and I expect you to pay attention regardless of what you are doing with the computer.

Your success in this course is important to me. When I believe that the programs offered at the Center for Student Success (CSS) will help you academically, I will send a referral.

CLASSROOM COURTESY: I realize that I should not have to tell you these things, and I apologize to those of you for whom this is unnecessary, but in the past few years I have noticed a significant increase in bad classroom manners and inconsiderate behavior. So please adhere to the following rules. Repeated violations of these will be grounds for reducing your course grade, and you will be reported to the Office of Homeland Security as a threat to national learning.

- Turn off your phone's and pager's volume before entering class; do not talk on the phone in class.
- Come to class on time. In those cases where being late is unavoidable, please enter the classroom quietly and take a seat as close to the door as possible. If the class period is more than half done, don't bother to come to the class. Once in class, do not get up and leave unless it is truly an emergency.
- Open beverage cans and bottles and snack bags before class starts. If you eat during class, please do so quietly.
- Keep talking with your neighbor to a minimum. If you are confused about something in class, please ask me - that is my job and I'm happy to answer questions.
- When you use the computers, do so quietly. Recently the typing by students has gotten so loud that it is very distracting both to me and the members of the class.
- Bring a handkerchief or tissue to class to blow your nose in case you get the sniffles.
- I am not going to supervise your use of the computer in class. However, you are responsible for all the material covered in class -- if you do not pay attention and miss important material, I am not going to go over it again.

DISABILITIES: Please inform me of any physical disabilities that could affect your learning. I am happy to make reasonable accommodations to improve the learning environment, but I need to know about them in order to help. If, during the semester, you are experiencing a serious emotional trauma, please inform me of this before taking an exam; once an exam is taken the grade must be counted and no "retake" is possible.

SCHEDULE

Week	Topics	Chapter
1	Introduction and Definitions	1
2-3	Decision Making	2
4-6	Models and Model Management Components	4, 4S
7-8	Programming and Decision Support Systems	9
9-10	User Interface Components	
	Dashboards	5, 12
11-12	Data Components	3
	Data Warehousing	
13-14	International Issues in Decision Making	7
15	Design and Implementation	10, 11

* Approximate allocation of time to topics. See web page for more specific information.