BA 306 -- Winter, 2002
Decision Support Systems

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M 6:00 - 6:30 pm
or by SCHEDULED appointment

General Information
Acceptable Use Policy: http://www.umsl.edu/help/userrights.html
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MIS Home Page http://www.umsl.edu/business/mis

Any JavaScript Book with which you feel comfortable.

Supplemental Materials
Class Web Site http://www.umsl.edu/~sauter/DSS/306start.html
DSS Current Page http://www.umsl.edu/~sauter/DSS/current.html
Web Help http://www.umsl.edu/~sauter/help/index.html
JAVA Script Help http://www.umsl.edu/~sauter/help/Links_java.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: BA 252 -- Introduction to Operations Management

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.

Group Assignments
Students will work in groups of 3-5, which will be created randomly by the instructor. However, she will take into account students’ preferences for group members. No later than January 28, each individual must email the instructor with a list of names of individuals with whom he or she does want to work and a list of names of individuals with whom he or she would prefer not to work. Groups should be announced no later than January 30.
**DSS Profile**: Each group will prepare a report about an online DSS available from the Internet. This report will be web-based, and will serve as the basis for a 15 minute presentation/demonstration of the selected DSS. For each system, you should cover:

1. What kind of managerial work is the DSS designed to support?
2. Which decision role does the system support?
3. Examples of decisions the system supports
4. Characterization of the support provided, including
   a. What knowledge does it provide?
   b. What problem(s) does it solve during decision making?
   c. What kinds of support does it furnish?
   d. How could the system be used?
5. Describe the DSS’s knowledge acquisition, knowledge presentation and knowledge selection abilities.
6. What are the benefits of the DSS?

The presentations will all occur on **February 27**, and will be scheduled by lottery. Students must also turn in a URL for the group paper on February 27. Web pages should be informative and attractive, and include appropriate links.

**Systems Development**: Each student will get “hands-on” experience with the development of a decision support system/expert system. The topic for each of these systems is an integrated scheduling support system. By “integrated” I mean that the system would have two distinct support tasks: (a) to help administrators decide which courses (and how many sections of each) to offer each semester, and when to offer them within the semester (what day and what time of the class); and (b) to help students plan their coursework during their degree program. Hence, some of the components should facilitate the tracking of demand for courses for courses over time and the use of such data in conjunction with resource data (classrooms and faculty) and program data (requirements, prerequisites, etc.) to decide how to schedule classes. Other components should track the courses over time and be used in conjunction with program requirements, course descriptions and other information to help students decide what classes to take each semester.

The system must be able to accommodate a variety of decision making styles in these choices. These systems must include some “intelligence.” That is, the system must be able to make some decisions on its own as a function of its “knowledge” of the user and/or its “knowledge” about the classes and/or scheduling. Students may (and are encouraged) to fabricate (or invent) any other data they need for the system; they are not expected to collect it. Groups are not required to use the provided information and may re-formulate information into other databases.

**Systems and Final Reports**: The groups will provide a disk or URL with the working system that they write as well as a report justifying their system. This paper must identify and justify the system characteristics. It must include a discussion of what the system does, and why your group elected to implement the system in the fashion chosen. This includes:

1. a description of the decision process
2. a justification for how the process would be improved with this system
3. the goals/objectives of the DSS
4. a discussion of how those goals/objectives meet the needs of the users
5. a discussion of how the DSS might be integrated into normal work processes
6. an explanation of what types of information will the system require, and how will that information be maintained
7. an explanation of what type(s) of modeling the DSS will use

Students will probably want to include a section, “what we wanted to do, but didn’t know how or didn’t get to.” Papers must be typed (or word-processed), double-spaced with one-inch margins on all sides, and with page numbers. The maximum length for the paper is 10 pages. The paper and system will be due on **May 9 (note this is the first day of final exams)**.

**Progress Reports**: In addition to the paper, the analysis group must provide the instructor with regular reports on group activity. These reports are due from the group on each week at the beginning of class beginning on **February 4**. These reports must include: (a) brief minutes of the discussion and decisions considered during any
group meetings during the week; (b) action items for the next week; (c) task assignments; (d) problems and/or opportunities faced by the group that week. In addition, these reports should discuss how the group is addressing the various topics discussed in class. Specific topics that should be addressed by specific dates are noted below. Additional, specific sections may be required from time to time, and will be announced in class. These assignments can be as long or as brief as is relevant for the activities of the group. In addition, they can be provided as a paper, email or web page.

Decisions and Decision Making  
User Interface Functions  
Data and Data Warehouse Issues  
Models, Data Modeling and Model Management  
International Issues  

February 11  
February 25  
March 18  
April 8  
April 29

While the entire group generally will receive the same grade, I reserve the right to assign grades differentially to reflect substantially different levels of work being completed by members of the group. At the end of the semester, group members must evaluate the amount of work done by others in the group using the Group Member Evaluation Form.

Exams: There will be a midterm and a final exam.  
Midterm exam: March 18  
Final exam: Monday, May 13 12:30-2:30 pm

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.

Grading Policy: The following proportions will be used for grading.

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Progress Reports</td>
<td>5%</td>
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<tr>
<td>DSS Profile</td>
<td>20%</td>
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<tr>
<td>DSS</td>
<td>25%</td>
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<tr>
<td>Midterm</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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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.

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 22 with a passing grade. (Note the University policy states that you may drop until February 11 without receiving a grade; this policy is simply an extension of the University policy.) Between March 23 and April 6, 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 6 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 6, 2002.

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.

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.

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.

Rights and Responsibilities of Computer Users

As part of its educational and research missions, the University of Missouri-St. Louis strives to provide quality computing facilities. These include large and small systems, communication networks, and personal computers, as well as associated software, files and data. Although computers affect how individuals communicate and interact with each other, computers do not change underlying societal values and established individual rights with respect to personal privacy and ownership of property. Computing facilities are recognized as community resources. Each computer user, therefore, is expected to act responsibly so as not to violate the rights of others. Access to computing resources is contingent upon prudent and responsible use. Inappropriate use of computing services and facilities will not be tolerated and may result in loss of computing privileges. In addition, disciplinary and/or legal action will be pursued for violation of these codes and statutes through appropriate University procedures.

SCHEDULE

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<thead>
<tr>
<th>Week*</th>
<th>Topics</th>
<th>Chapter(s)</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction and Definitions</td>
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<td>2 - 3</td>
<td>Decision Making</td>
<td>2</td>
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<td></td>
<td><strong>DSS Components</strong></td>
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<td>4 - 5</td>
<td>User Interface Components</td>
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<td>6 - 7</td>
<td>Object-Oriented Programming and DSS</td>
<td>9</td>
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<td><strong>DSS Components (cont.)</strong></td>
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<td>8 - 9</td>
<td>Data Components</td>
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<td>Data Warehousing</td>
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<td>10 - 12</td>
<td>Model Components</td>
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<td>Intelligent Systems</td>
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<td>Data Mining</td>
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<td>13</td>
<td>International Issues in Decision Making</td>
<td>7</td>
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<td>14 - 15</td>
<td>Implementation and Evaluation of DSS</td>
<td>8, 10</td>
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<td>16</td>
<td>GDSS</td>
<td>11</td>
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<td>EIS</td>
<td>12</td>
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* Approximate allocation of time to topics.