MSIS 497 — Winter, 2002
Decision Support Systems

Dr. Vicki L. Sauter
Office: 226 CCB
Voice: 516-6281
FAX: 516-6827
Secretary: Ms. Dena Will, 211 CCB
Secretary’s Telephone Number: 516-6267
Electronic Address: Vicki_Sauter@umsl.edu
Home Page: http://www.umsl.edu/~sauter/
Mailbox: 210 CCB (generally open 8 am - 10 pm, Monday - Thursday; 8 am - 5:20 pm on Friday)
Office Hours: MW 3:30 - 4:00 pm
M 6:00 - 6:30 pm
Class Discussion Group: 49701@lists.umsl.edu
or by SCHEDULED appointment

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

Text:
Any JavaScript Book with which you feel comfortable.

Supplemental Materials
Class Web Site http://www.umsl.edu/~sauter/DSS/497start.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: MSIS 481: Statistical Analysis

Semester Goals: Decision Support Systems are tools decision makers use to gain a better understanding of their business and customers. 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.

This semester, we will consider general topics of DSS design. In addition, we will focus on how DSS can be used to improve organizational excellence, especially as a CRM tool. Thus, projects and papers will have a CRM analytical bent to them.
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 4.

1. **Analysis of Current Tools**

   Each group will prepare a report about a customer-oriented CRM system available from the Internet. Groups should look at businesses with a web presence and evaluate both (a) how they provide analytical tools for customers over the internet and (b) the information they collect from customers and how they might use it to better respond to and manage their customers. This report will be web-based, and will serve as the basis for a 15 minute presentation/demonstration of the selected site. 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?

Possible systems to evaluate include:

- Career Decisions
- Financial Decisions
- Insurance Decisions
- Real Estate Decisions
- Vehicle Decisions
- Relocation Decisions
- Retirement Decisions
- Travel Decisions

The presentations will all occur on **February 25**, and will be scheduled by lottery. Students must also turn in a URL for the group paper on **February 25**. Web pages should be informative and attractive, and include appropriate links.

2. **Systems Development**

Each group will select a kind of company to investigate the development of a competitive intelligence or CRM system for a company of their choice. Students will generate access data warehouses, provide data filters, and will create a system to generate analytical reports.

   The groups will provide a URL of a 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**.
Individual Assignment

Each student must complete a term paper investigating how DSS technologies can facilitate CRM or other excellence-enhancing application. These papers discuss the aspect of the system that makes it excellence-enhancing, and the enabling aspect of DSS that extends what we cover in class. To that end, the papers must include citations to both scholarly and practitioner work and must demonstrate a significant effort. Some of the topics you might consider for these papers include:

- Role of DSS in Electronic Commerce
- Intranets and their Relationship to DSS
- Intelligent Agents on the Web as a DSS tool
- Data Warehousing
- Online Analytical Processing (OLAP)
- Data Mining
- Spatial Decision Support Systems (and GIS)
- How to Incorporate Qualitative Data Effectively
- GDSS and their Relationship to Re-engineering
- Cultural Preferences in DSS Use and Design
- DSS for Enterprise Resource Planning
- Negotiation Support Systems
- Knowledge Management Technology
- Model Management

The papers must 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 29, 2002.

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

Midterm exam: March 18
Final exam: Monday, May 13, 7:45 - 9:45 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.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress Reports</td>
<td>5%</td>
</tr>
<tr>
<td>Current Tools Paper</td>
<td>14%</td>
</tr>
<tr>
<td>Paper</td>
<td>25%</td>
</tr>
<tr>
<td>DSS</td>
<td>21%</td>
</tr>
<tr>
<td>Midterm</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and Definitions</td>
<td>1</td>
</tr>
<tr>
<td>2-3</td>
<td>Decision Making</td>
<td>2</td>
</tr>
<tr>
<td>4-5</td>
<td>User Interface Components</td>
<td>5</td>
</tr>
<tr>
<td>6-7</td>
<td>Object Oriented Programming and DSS</td>
<td>9</td>
</tr>
<tr>
<td>8-9</td>
<td>Data Components</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Data Warehousing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Mining</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>Model and Management Components</td>
<td>4, 4S</td>
</tr>
<tr>
<td>13</td>
<td>International Issues in Decision Making</td>
<td>7</td>
</tr>
<tr>
<td>14</td>
<td>Building a DSS</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Implementation and Evaluation of DSS</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>GDSS</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>EIS</td>
<td>12</td>
</tr>
</tbody>
</table>

* Approximate allocation of time to topics.