

**CALIFORNIA STATE UNIVERSITY, SACRAMENTO**  
**College of Business Administration**

MIS 218 - Decision Support and Knowledge Base Systems

**Course Syllabus**

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Class Periods: 6:00-8:50 p.m. Thursday (MIS 218)

Office Hours: 5:00-6:00 p.m. Thursday  
And by appointment

Required Textbooks: Decision Support Systems and Intelligent Systems, 6<sup>th</sup> edition, Turban and Aronson. Prentice-Hall (1999).

Optional Textbook: Oracle Discoverer Handbook, Armstrong-Smith and Armstrong-Smith. Course Technology (2000).

Required Item: E-mail address<sup>1</sup>

Prerequisite: MIS 211 - Information Systems II or an approved equivalent

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<sup>1</sup>E-mail your Internet address to me by Friday, February 6. If you do not already have one, open a SACLINK account. Instructions are available in any campus computer lab. Addresses may be from any Internet service provider (e.g., AOL, Hotmail, etc.) or your employer. You may submit multiple addresses.

**Note.** Because we will be using Oracle's Discoverer and Oracle9i to demonstrate the design and implementation of a DSS, a background in database and SQL is necessary (i.e., MIS 211 and/or 217). If you do not possess this knowledge, you will have difficulty with some of the assignments.

## Course Objectives

The primary objective of this class is to develop an understanding of the role managerial support systems (MSS) and AI-based systems play in the organization. It involves understanding the information needs of the different levels of management and the types of decision making tasks associated with them, and examining current issues surrounding the development and application of these systems. This will be achieved through the fulfillment of several subobjectives.

### Subobjective 1: The Organization and Its Information Needs

To understand the decision making tasks assigned to the different levels of management and the information needed to support them (i.e., levels of management).

### Subobjective 2: Information Support Systems

To examine the role decision support systems (DSS), group support systems (GSS), executive information/support systems (EIS/ESS) play in supporting managerial decision making.

### Subobjective 3: Knowledge Base Systems and Artificial Intelligence

To examine the role expert systems and artificial intelligence (AI) play in supporting managerial decision making.

### Subobjective 4: Current Issues

To examine current managerial issues surrounding the development and application of MSS (i.e., DSS, GSS, EIS, ESS, expert systems, AI).

### Subobjective 5: Application of Concepts

To apply the concepts inherent to the previous subobjectives through the development of a DSS and expert system.

## Three Rules to Success

Your success in this class hinges upon three important rules:



- Take pride in your work and always present your best side,
- Learn to work smarter, not harder,
- Have fun doing the above.

Rather than approaching this class as another exercise in academe, think of it as a learning experience that adds value to your skill sets.

**Note.** Two *necessary but not sufficient conditions* to succeed in this class are diligence and *common sense*.

Since you have been preparing yourself for a career in MIS, you are expected to explore and experiment on your own. Most of the material should be very intuitive. Remember, you are above average in computer literacy and most non-IS people look up to your knowledge.

### Goal

Upon completing this class, you will have a better understanding of the role MSS and AI-based systems play in supporting the informational needs of the organization, and the need for different types of information systems. Although you may not emerge as an expert, you will have gained the background to discuss and intelligently propose ways of applying information technology (in the form of MSS) throughout an organization.

### Grades

Final letter grades will be assigned according to the total number of points you have obtained through exams, assignments and class participation relative to the total possible number of points.

**Note.** Listed below are the maximum possible points. Certain segments may be reduced, thereby reducing the total. However, the points will never exceed their maximum.

Midterm Exam (1)	100
Final Exam	100
Research Papers (2)	150
Homework Assignments (6)	<u>250</u>
Total Points	600

Final letter grades are assigned according to the following *rule of thumb*:

540 - 600 (90-100%) A



480	-	539	(80-89%)	B
420	-	479	(70-79%)	C
330	-	419	(55-69%)	D
<	330	Less than 55%		Failing grade

Pluses and minuses will be awarded along the extremes (i.e., 2% below the upper limit or the upper limit minus 2%, and 2% above the lower limit or the lower limit plus 2%, respectively). Because this is a rule of thumb, the final grade distribution is subject to change in the students' favor.

### Incomplete Grade (I)

An incomplete grade (I) will only be issued in accordance to College of Business Administration policy. Among the conditions imposed by the instructor that must be met (but are not limited to) are (1) a current passing grade (80 percent or better), (2) the successful completion of all prior assignments and exams, and (3) an unforeseen and unusual event beyond your control which prevents you from completing the semester and can be documented and verified (employment-related events do not qualify). (4) An incomplete will only be considered after it has been determined that a withdrawal (W) cannot be issued. If you do not meet (1) through (4), you do not qualify for an incomplete. As stated by the University, an incomplete cannot be assigned when it is necessary for the student to attend additional class meetings to complete the course requirements.

### Et cetera

Please keep in mind the following points:

- Final grades can only be changed if a posting error has occurred. Grades cannot be changed for any other reason (per the Registrar's Office).
- Grades are based on the published assignments. No extra credit assignments will be made available at the end of the semester to bolster your grade (i.e., *what you see is what you get*).
- Reasons not related to your performance in this class (e.g., scholarships, grants, GPA, etc.) will not be considered in determining your semester grade. Not only is this unethical, it is unfair to other students who have earned their grades.

### Grade Appeals

Assignment and exam grade appeals must be made within 14 calendars from the date the item was returned to the class (not the date you received it), ***no exceptions***. All grade appeals must be made in writing.



Your appeal must specifically identify the error and suggest a correct answer, including references that support your argument. The original, unaltered file(s) and/or document(s) must be submitted with an assignment grade appeal. Please be aware that an assignment or exam grade may be appealed only once.

## Examinations

A midterm and final examination will be given during the semester. Both are take-home and will consist of four to five essay questions/problems. Material will be drawn from the textbook readings, other assigned readings, and class lectures and discussion. **Emphasis will be placed on your conceptual understanding of the material and NOT on how well you can summarize the textbook and other assigned readings.** Hence, understanding the application of the concepts will greatly enhance your grade. The content of your responses should address the issues or concepts embodied in the questions. Although there is no lower limit to the number of pages, you are expected to demonstrate integrative and creative thought within the number you choose. However, an answer should not exceed five pages. Incorporating seminal articles into your response is greatly encouraged.

The exam questions will be posted one week prior to the due date on the following web site:

[www.csus.edu/indiv/c/chingr/mis218/index218.htm](http://www.csus.edu/indiv/c/chingr/mis218/index218.htm)

The exams are due on their assigned dates (the midterm at the beginning of the class session, and the final no later than 6:30 p.m.). Under no circumstances will an exam be accepted late (**NO exceptions, please don't ask<sup>2</sup>**). Please keep in mind that exams may be submitted early but never late. FAXed or e-mailed exams will not be accepted.

**Note.** Although discussing the questions in a group is not discouraged, your responses should reflect **your independent thought** and not those of a group. There should not be any uncanny resemblance in answers. Also, pontificating will be a detriment to your grade.

## Research Paper

Two research papers will be required during the semester on (a) DSS, GSS or EIS/ESS, and (b) expert systems or an AI technique (i.e., neural networks, case-based reasoning, fuzzy logic, genetic algorithms). The papers should focus on a current management or organizational issue in the topic area, and should not attempt to present a tutorial or other textbook-type discussion. Guidelines will be distributed on a future date.

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<sup>2</sup>Please keep in mind that *making an exception for you means taking away an opportunity for someone else.*



As we discuss various topics throughout the semester, think about areas of *controversy* or developing concepts and thought. Because of our social science orientation, particularly in dealing with human and organization behavior, proposed methods and theories are not always applicable to every instance or situation. Often, differences in *thought* arise, and new ideas are introduced and explored. However, the solutions we propose should build upon the success of others, and try to overcome their shortcomings.

Research papers as well as projects are due on their assigned dates. Under no circumstances will either be accepted late (i.e., NO exceptions, *please don't ask*). Papers may be submitted early but never late. FAXed or e-mailed papers will not be accepted.

### Homework Assignments

Homework assignments will be posted at the following web address:

[www.csus.edu/indiv/c/chingr/mis218/index218.htm](http://www.csus.edu/indiv/c/chingr/mis218/index218.htm)

All homework assignments should reflect the individual's effort. Although working in a group is not discouraged, the submitted work should not be a copy (either directly or closely) of another person's work or the product of a group effort. The assignments are moderately challenging, yet simple enough to promote learning. The *one assignment, one grade* rule will be strictly enforced.

Assignments are due at the beginning of the class session. **No late assignments will be accepted (no exceptions, please don't ask).** Please keep in mind that assignments may be submitted early but never late. FAXed or e-mailed assignments will not be accepted.

### Classroom Etiquette (*Civility*)

The basic rule underlying classroom etiquette is *consideration for others*. During class, you are expected to conduct yourself professionally and courteously. The following list of *guidelines* has been assembled.

- Do not interrupt others while they have the floor. You will always be given a chance to contribute to the discussion.
- Be tactful and thoughtful when responding to another person's remarks.
- Turn off all cellular phones, pagers and wrist watch alarms (no distractions).
- Do not conduct personal conversations during class. Even though you may be speaking in a very low tone, your voice will carry and disturb others. Please conduct your conversations outside of the classroom.



- If you need to leave or enter the classroom while class is in session, please do so in a non-disruptive manner. This includes (but is not limited to) walking in front of the class, letting the door slam, and making noises that prevent others from listening. If you need to leave class early, please sit near the exit.
- Please, no eating in the classroom.
- Sleeping will not be tolerated. If you are tired, please rest outside of the classroom. If you are caught sleeping during class, you will be asked to leave.

If you cause a disruption or disturbance, you will be asked to leave the classroom. Persistent and blatant disregard for etiquette will lead to a 20 percent reduction in your final grade (approximately 2 letter grades).

### **Academic Dishonesty**

Unfortunately, the subject of academic dishonesty must be discussed for those who are inclined toward such activities. The university's policy is discussed in the following paragraphs. Please, there is no need to engage in any unethical behavior in this class! If you need help, my door is always open.

Academic dishonesty involves acts which may subvert or compromise the integrity of the educational process of the university. Included is any act by which a student gains or attempts to gain an academic advantage for him/herself, or another, by misrepresenting his/her, or another's work or by interfering with the completion, submission, or evaluation of work. These include, but are not limited to, accomplishing or attempting any of the following acts:

- Using any materials that are not authorized by the instructor for use during an examination.
- Copying from another student's paper during an examination.
- Collaborating (i.e., talking, passing notes and/or signals, etc.) during an examination with any other person by giving or receiving information without specific permission of the instructor.
- Stealing, buying or otherwise obtaining information about an unadministered examination.
- Substituting for another person or permitting any other person to substitute for oneself to take an examination.
- Submitting another person's work as your's either in its original or altered form.
- Giving someone else your work to fulfill his/her assignment.



- Using the assignment of another class to fulfill an assignment for this class without authorized consent of the instructor.
- Plagiarizing.

**Violations to proper ethical conduct will NOT be tolerated.** A failing semester grade will be assigned to all involved parties (NO exceptions). Severe cases of academic dishonesty will be handled at the university level.

If you are aware of any academic dishonesty, please notify me either personally (your identity will remain confidential) or anonymously. **Cheating devalues everyone's grade and degree, including your own!**





TENTATIVE CLASS SCHEDULE<sup>3</sup>

<i>Week</i>	<i>Date</i>	<i>Topic</i>	<i>Reading</i>	<i>Assignment Due</i>
1	1/29	Decision support introduction: <ul style="list-style-type: none"> <li>• Robert Anthony's taxonomy</li> <li>• Herbert Simon's decision making model</li> <li>• Gory and Scott Morton's framework for management information systems</li> <li>• Rockart's Critical Success Factors</li> </ul> Oracle9i Demo	Chap. 1, 2	
2	2/5	DSS overview and applications DSS components Oracle Discoverer Demo	Chap. 3	H1 - Oracle9i SQL
3	2/12	Data warehousing and OLAP <ul style="list-style-type: none"> <li>• Oracle Express and Darwin demos</li> </ul> GIS <ul style="list-style-type: none"> <li>• GIS demo</li> </ul>	Chap. 4	
4	2/19	Modeling DSS Development Oracle Discoverer GSS, <i>collaborative computing</i> <ul style="list-style-type: none"> <li>• GSS demo</li> </ul>	Chap. 5, 6, 7, 8	H2 - Oracle Discoverer
5	2/26	EIS Knowledge management	Chap. 8, 9	
6	3/4	Expert systems overview	Chap. 10	MSS Paper
7	3/11	Knowledge acquisition and validation Knowledge representation	Chap. 11, 12	
8	3/18	Inference techniques <ul style="list-style-type: none"> <li>• Rule-induction decision trees</li> </ul> SAS Demo (decision tree)	Chap. 13	H3 - Oracle Discoverer

<sup>3</sup>Topics and chapters may be dropped when time does not permit their inclusion.



9	3/25	<i>No class (MIS 180 midterm exam)</i>		<b>Midterm Exam</b> Due no later than 6:30 p.m.
<b>SPRING BREAK, April 5 - 9</b>				
10	4/15	Intelligent systems development	Chap. 14	
11	4/22	Neural computing and applications SAS Demo (neural network)	Chap. 15, 16	H4 - SAS Decision tree
12	4/29	Neural computing and applications Exsys Demo (expert system shell)	Chap. 15, 16	
13	5/6	Intelligent software agents	Chap. 17	H5 - SAS Neural network
14	5/13	Implementing and integrating MSS	Chap. 18	H6 - Exsys Expert system
15	5/18	Impact of MSS	Chap. 19	AI/ES Paper
16	5/27	<b>Final exam</b>		Due no later than 6:30 p.m.

\*Exam due date

The University's final exam schedule can be viewed at [www.csus.edu/schedule/exam.htm](http://www.csus.edu/schedule/exam.htm).

