I. Catalog Description and Credit Hours of Course:

Use of information systems technologies to support decision making. Topics include decision support systems, expert systems, and executive support systems. (3)

II. Prerequisite(s): MG375 Management Information Systems with a minimum grade of "C"

III. Purposes or Objectives of the Course: Upon completion of this course the student should be able to:

A. Understand the concepts, tools, and techniques for effective decision making.

B. Understand the decision making needs of managers and how it can be enhanced by mathematical models and artificial intelligent based other techniques.

C. Understand the development process of decision support systems (DSS) and expert systems (ES).

D. Develop prototype Decision support systems and Expert systems.

E. Understand the integration of decision support systems, expert systems, and executive information systems into other computer-based information systems.

IV. Expectation of Students:

A. Students are expected to be fully participate in class discussions involving assigned readings, lectures and other activities such as individual and team projects and other class assignments.

B. Students are expected to behave in an academically honest manner to preserve the integrity of the classroom and the learning environment.

C. Students are expected to be familiar with the contents of the class outline and other instructions provided by the instructor.

V. Course Content or Outline:

A. Decision Making and Knowledge (3)
   1. The importance of knowledge-based decision making
   2. Decision makers and decision processes
B. Computer-based Problem Solving (3)
   1. Defining and articulating problems of unstructured or semistructured nature
   2. Modeling using quantitative tools as well as qualitative (artificial intelligence) tools

C. Case Studies of ES, DSS, and EIS Applications (3)

D. Foundations of Knowledge-based Decision Support Systems (6)
   1. Definitions, concepts, and taxonomy
   2. Knowledge-based DSS architecture
   3. Building DSS

E. Advanced Topics in Microsoft EXCEL (3)

F. Review of LEVEL 5 (ES Shell Program) (3)

G. Construction of Prototype Specific DSS and ES (6)

H. Application of Quantitative Models in DSS (3)

I. Group DSS and Multiparticipant DSS (6)

J. Organizational Decision Support Systems (3)

K. Global and International Decision Support Systems (3)

L. Recent Developments in DSS (3)
   1. Data mining
   2. Data warehousing
   3. On-line analytical processing
   4. World Wide Web-based DSS
   5. DSS for managing global corporations

VI. Textbook(s) and/or Other Required Materials or Equipment:


B. Other Textbooks
C. Periodicals
1. Decision Support Systems
2. Interfaces
3. Information & Management
4. MIS Quarterly
5. Journal of MIS
6. Decision Sciences
7. European Journal of Operational Research
8. Data Base
9. Omega
10. Communications of the ACM
11. Information Systems Research

VII. Basis for Student Evaluation:

A. Quality of participation in class

B. Performance on examinations, pop quizzes, in-class assignments

C. The quality of a research paper/project and its presentation in class

D. The quality of homework, computer lab assignment