MINS/CITA 315

Decision Support Systems

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Revised by Eric Cheng

CANINO SCHOOL OF ENGINEERING TECHNOLOGY
DEPARTMENT OF COMPUTER INFORMATION SYSTEMS
May 2015

A. TITLE: Decision Support Systems
B. **COURSE NUMBER:** MINS/CITA 315

C. **CREDIT HOURS:** 3 credit hours

D. **WRITING INTENSIVE COURSE (OPTIONAL):** N/A

E. **COURSE LENGTH:** 15 weeks

F. **SEMESTER(S) OFFERED:** Fall/Spring

G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**
   3-hour lectures per week

H. **CATALOGUE DESCRIPTION:**
The course provides insights into customer life-cycle management, customer lifetime value, and measuring customer profitability. This course enables the student to turn raw data into information to help an organization’s managers make decisions. Students will develop decision making analytical models to provide organizational leaders with potential outcomes and their effects. Students will study the network's role in distributed systems, distributed systems development tools, and distributed systems issues. Students will apply data mining techniques supporting knowledge management decisions.

I. **PRE-REQUISITES/CO-COURSES:**
   MINS 300 — Management Information Systems or permission of the instructor

J. **GOALS (STUDENT LEARNING OUTCOMES):**
   By the end of this course, the student will be able to:

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<tr>
<th>Course Objective</th>
<th>Institutional SLO</th>
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<tr>
<td>a. Describe the foundations and key issues of managerial decision making</td>
<td>2. Crit. Thinking</td>
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<td>b. Discuss the frameworks of designing a decision support system</td>
<td>2. Crit. Thinking</td>
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<td>c. Explain the importance of databases and database management</td>
<td>2. Crit. Thinking</td>
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<td>d. Differentiate between the foundations, definitions and capabilities of decision support systems and business intelligence</td>
<td>2. Crit. Thinking</td>
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<td>e. Compare and evaluate different decision support systems</td>
<td>2. Crit. Thinking</td>
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<td>f. Evaluate the different structures, components, and process of business intelligence</td>
<td>2. Crit. Thinking</td>
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g. Analyze the processes and capabilities of effective group support systems and group decision support systems.

h. Evaluate the tools necessary to develop a knowledge management system

2. Crit. Thinking
2. Crit. Thinking
3. Prof. Competence

K. **TEXTS:**

Turban, E; Aronson, J; Liang, TP; Sharda, Ramesh. (2007). Decision Support and Business Intelligence Systems. 8th Ed. Prentice Hall.

L. **REFERENCES:**


M. **EQUIPMENT:** Technology Enhanced Classroom

N. **GRADING METHOD:** Standard A-F grading

O. **MEASUREMENT CRITERIA/METHODS:**

 Essays, quizzes, tests.

P. **DETAILED TOPICAL OUTLINE:** See attached sheet

Q. **LABORATORY OUTLINE:** N/A
DETAILED TOPIC OUTLINE

MINS 315 Decision Support Systems

TOPICS

I. Overview of Decision Support Systems and Business Intelligence
   A. Managerial Decision Making
      1. Components
      2. Business Environment
   B. Business Intelligence and Computers
      1. Tools and Techniques
      2. Early computer Models in Developing Business Intelligence

II. Computers and Managerial Decision Making
   A. The Decision Making Process
      1. Defining the Problem
      2. Assessing the Alternatives
      3. Making the Decision
      4. Implementing the Decision
   B. Computers in the Decision Support System
      1. Data Management
      2. Information Generation
      3. User Interface
      4. Using Computers to Manage Knowledge
   C. Computers and Modeling
      1. Risk and Uncertainty
      2. Analytical Models
      3. Decision Trees
      4. Mathematical Modeling

III. Computers and Intelligence
   A. Building the Data Warehouse
      1. Definitions and Concepts
      2. Architectures
      3. Warehouse Development and Security
   B. Building the Analysis and Visualization
      1. Building Reports
      2. Visualizing the Decision
   C. Computers and Mining
      1. Data
      2. Text
3. Web
4. Neural Networks and Strategy Building

IV. Groups and Knowledge Management

A. Groups and Group Support Systems
   2. Collaboration and Project Management
   3. Collaboration Tools
B. Knowledge Management
   1. Tacit and Explicit Information
   2. Knowledge Management and Motivation
   3. Computer Systems and Knowledge Management

V. Building the Intelligence System

A. Artificial Intelligence and the Intelligence System
   1. Concepts
   2. Architecture
   3. Development
B. The Internet and the Intelligence System
   1. Intelligence Agents
   2. Internet Software Based Agents
   3. Web Based System Management

VI. Building the Decision Support System

A. System Development
   1. Concepts
   2. Architecture
   3. Implementation
B. System Integration
   1. System Integration into the Organizational Technology Network
   2. System Integration into the Organizational Structure