This introductory level course provides students with the opportunity to develop basic computer skills needed for business computing. The course includes a broad coverage of technology concepts and trends underlying current and future developments in information technology (IT). We focus on data, information, and knowledge by utilizing a series of tools to develop database management systems, management information systems, decision support systems, and expert system in a hands-on environment. The course also covers some advanced topics to provide students with a competitive advantage to uniquely identify and solve IT-related problems.

Note: This course is intended for students with little background in computer technology. Students with extensive education or work experience in computer technology should consider taking a more advanced course.

COURSE MATERIALS

WEB RESOURCES:


username: tavana
password: spacewalk

SUGGESTED READINGS:


COURSE OBJECTIVES:

Upon completion of prescribed work for this course, the student should be able to:

- Understand the emerging technological issues facing managers.
- Understand the value of data, information, and knowledge to organizations.
- Utilize IT to design competitive and efficient organizations.
- Describe the latest concepts, components, and applications of IT.
- Utilize IT tools to design operational, managerial, and strategic systems.
- Describe the leadership responsibilities and organizational impact of IT.
- Utilize a series of tools to design and develop Database Management Systems, Management Information Systems, Decision Support Systems, and expert System in support of the decision making and problem solving processes.
- Describe when and how Management Support Systems may be used to complement more analytic decision making frameworks.

COURSE OVERVIEW:

Computers are data, information, and knowledge processing machines. Billions of dollars are spent every year collecting, storing, processing, and retrieving data; whether it is for financial, marketing, or operational analysis and decision making. Data is a collection of bits, bytes, and characters. Raw data by itself has little or no use. No decision can be made without organizing and synthesizing data. Information is derived from organizing data and knowledge is extracted from synthesizing information. The evolution of data and its relationship with information and knowledge can be
visualized as a pyramid of interdependent layers on the top of each other with data at the bottom, information in the middle, and knowledge on the top.

Computers are used to collect, store, and process (organize and synthesize) data, information, and knowledge. Data is collected by a Transactional Processing System (TPS) and stored in a Database Management System (DBMS). Data is organized into information by an Information System (IS) and used in a Decision Support System (DSS) for decision making. Information is organized, meaningful, and useful data. Information is synthesized into knowledge by a Knowledge Based system (KBS) and used in an Expert Systems (ES) for problem solving.

Consider the scenario depicted in the pyramid below where a retailer collects data on their revenues and expenses every time a purchase is made or every time an expense is paid. That data is then stored in the retailer’s DBMS. The accounting department can retrieve and organize this data into meaningful information by way of a report such as income statement. The operations department can use this information in a DSS to assess profitability. The finance department can synthesize this information in a KBS and make expansion or contraction decisions.
This course focuses on data, information, and knowledge by utilizing a series of tools to develop Database Management Systems, Management Information Systems, Decision Support Systems, and expert System in support of the decision making and problem solving processes in a hands-on environment.
COURSE TOPICS:

THE WORLD OF INFORMATION SYSTEMS

◆ Decision Making in the Information Age

TRANSACTIONAL PROCESSING SYSTEMS AND DATABASE MANAGEMENT

◆ Database Management Systems (SA-DBM-H) ◆ Building DBMS with ACCESS (SA-ACC-H) ◆ Cases:
  ✗ Happyville Casino
  ✗ Explorer Healthcare
  ✗ Great Times Summer Camp
  ✗ Jimmy “the Body Bag” Biggs

Access Case Analysis (10% of the Final Grade):

A PowerPoint Presentation with Problem Description, Initial Table, Split Tables, Relationships, and Query.
SAMPLE ACCESS CASE & DATABASE.

BUILDING DECISION SUPPORT SYSTEMS (DSS) WITH SPREADSHEETS

◆ Decision Support Systems and EXCEL (DS-EXL-H)
◆ Cases:
  ✗ American Appliances
  ✗ The Heinrich
  ✗ Company Francois
  ✗ Stealth Planters Nut
  ✗ Company Titanic
  ✗ Cruise Company
  ✗ Built-4-U
Excel Case Analysis (10% of the Final Grade):

A PowerPoint Presentation with Problem Description, Excel Spreadsheet, Solver Formulation, and Optimal Solution.
SAMPLE EXCEL CASE & EXCEL FILE.

BUILDING DSS WITH NATURAL LANGUAGE PROGRAMMING (Visit D-code.us)

- Natural Language Programming: D-code (DS-COL-H)
- Building DSS with D-code (DS-COP-H)
- Cases:
  - Keystone Corporation
  - The Prolog
  - Corporation Starship
  - Technologies Dr.
  - Warped
  - Jungle Jim
D-code Case Analysis (15% of the Final Grade):
A PowerPoint Presentation with Problem Description, Influence Diagram, Planners Lab Model, and Spreadsheet Solution.
SAMPLE D-CODE CASE & D-code FILE.

BUILDING DSS WITH INFLUENCE DIAGRAMMING (Visit D-cide.us)

◆ Influence Diagramming and D-cide (DS-DCD-H)
◆ Cases:
  ✗ The Procom Corporation
  ✗ Thrills R Us
  ✗ Parrot Club
  ✗ Southwest Airline
  ✗ Pick Your Own
  ✗ Jungle Jim

D-cide Case Analysis (10% of the Final Grade):
A PowerPoint Presentation with Problem Description, Influence Diagram Screenshot, and Spreadsheet Solution.
SAMPLE D-cide CASE & D-cide FILE.

KNOWLEDGE-BASED SYSTEMS (Visit B-wise.us)

◆ Knowledge Engineering with B-wise (DS-BWL-H) ◆ Building Expert Systems with B-wise (DS-BWP-H) ◆ Cases:
  ✗ Check Cashing Problem
  ✗ College Hill
  ✗ Tavern Police
  ✗ Academy
  ✗
Corleone Family
La Boutique
Gateway Computers

B-wise Case Analysis (10% of the Final Grade):
A PowerPoint Presentation with Problem Description, A listing of Factors and Choices, and Decision Tree Screenshot.
SAMPLE B-wise CASE & B-wise FILE.

Real-Life Group Project (20% of the Final Grade)
A multi-disciplinary group project focusing on a real-life strategic decision support system.
Professionalism: The majority of this class is engaged in full time employment or is seeking to enhance their employment opportunities. I would like to help you enhance your career by asking you to behave as you would in a professional setting. To do this, I suggest that you think of me as your manager, and our class sessions as regularly scheduled meetings. Following are some of the things that professionals would never do:

- **Miss a regularly scheduled meeting.** People can’t always attend all meetings, but professional courtesy dictates informing the manager ahead of time when a conflict has arisen. If you do need to miss class due to a conflict, please send me an email or call me before class and leave a message on my voice mail system.
- **Arrive late for a meeting without explaining the circumstances ahead of time.** I expect you to be on time for class, not saunter in five or ten minutes late.
- **Leave early from a meeting, without explaining the circumstances ahead of time.** If you need to leave early, let me know beforehand.
- **Sleeping or being inattentive during a meeting.** Can you imagine someone sleeping during a meeting with his/her manager? In my professional experience, such behavior is never tolerated.
- **Being unprepared or being unwilling to participate in class and group discussions.** I expect you to come prepared for class and participate actively in class discussions and your group project.

To encourage development of professional habits I have based 10% of your total grade on professionalism. You will receive a maximum of 5 professionalism points per class - if you meet your manager's expectations. If you have an unexcused absence, you will not receive any professionalism points for that class. Similarly, point reductions will be taken if you arrive late, leave early, sleep, or are unprepared/unwilling to participate.
CASE GRADING FORM:

<table>
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<tr>
<th>Grading Criteria</th>
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GRADING POLICY:

The student earns points which will be calculated on a 100 point scale. There is no extra credit. The following are the cutoff points for each grade:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Score</th>
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<tbody>
<tr>
<td>A</td>
<td>Indicates the demonstration of a superior level of competency</td>
<td>93.0-100</td>
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<tr>
<td>A-</td>
<td>Indicates the demonstration of a very good level of competence</td>
<td>90.0-92.9</td>
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<tr>
<td>B+</td>
<td>Indicates the demonstration of a good level of competency</td>
<td>87.0-89.9</td>
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<tr>
<td>B</td>
<td>Indicates the demonstration of an average, satisfactory level of competency</td>
<td>83.0-86.9</td>
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<tr>
<td>B-</td>
<td>Indicates the demonstration of a less than average level of competency</td>
<td>80.0-82.9</td>
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<tr>
<td>C</td>
<td>Indicates a below average and marginally satisfactory level of competency</td>
<td>70.0-79.9</td>
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<tr>
<td>F</td>
<td>Indicates failure to demonstrate a satisfactory level of competency</td>
<td>00.0-69.9</td>
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Click Here to open and fill out your data sheet. Please return or email your completed data sheet to your instructor during the first week of classes.