

**SAN DIEGO COMMUNITY COLLEGE DISTRICT
CITY, MESA, AND MIRAMAR COLLEGES
ASSOCIATE DEGREE COURSE OUTLINE**

SECTION I**SUBJECT AREA AND COURSE NUMBER:** Computer and Information Sciences 181**COURSE TITLE:** Principles of Information Systems**Units: 4**
Grade Only**CATALOG COURSE DESCRIPTION:**

This course is an introduction to basic principles and theory relating to problem solving and analysis in business organizations using computers and software packages. Emphasis is placed on computer organization, data processing systems, decision support systems, and systems analysis. Business software is reviewed with an emphasis on spreadsheet systems including hands-on spreadsheet applications. This course is intended for the transfer student planning to major in business, economics, or social science.

REQUISITES:**Advisory:**

ENGL 049 with a grade of "C" or better, or equivalent or Assessment Skill Level W5
&
ENGL 048 with a grade of "C" or better, or equivalent or Assessment Skill Level R5

FIELD TRIP REQUIREMENTS: May be required**TRANSFER APPLICABILITY:** Associate Degree Credit & transfer to CSU and/or private colleges and universities UC Transfer Course List**TOTAL LECTURE HOURS:** 48 - 54**TOTAL LAB HOURS:** 48 - 54**STUDENT LEARNING OBJECTIVES:**

Upon successful completion of the course the student will be able to:

1. Identify and describe the components of a computer.
2. Define and distinguish between the elements of an information system.
3. Differentiate between the most widely used business software application packages and explain how they are used.
4. Design, create, and produce documents using a word processing software application.
5. Design, create, and produce documents, worksheets, databases and queries using spreadsheet application software.
6. Demonstrate the use of the components of a systems unit.
7. Distinguish between the various types of input and output devices used on computers.
8. Contrast the various types of storage devices used on computers.
9. Compare and contrast the various operating systems used on modern computers and demonstrate the use of modern communication networks.
10. Examine the concepts of the Internet and the World Wide Web.

11. Compare and contrast the various operating systems used on modern computers and demonstrate the use of modern operating system.
12. Describe the concept of data management and examine the importance of using databases in business.
13. Analyze and describe how an information system is designed and how the systems life development cycle is used in a business system.
14. Create computer programs and outline how a program is developed for business use.
15. Analyze the importance of security in computer systems and how information privacy concerns and business ethics are incorporated in a computer business system.
16. Define multimedia and examine multimedia's place in computer business systems applications.

SECTION II

1. COURSE OUTLINE AND SCOPE:

A. Outline Of Topics:

The following topics are included in the framework of the course but are not intended as limits on content. The order of presentation and relative emphasis will vary with each instructor.

- I. Computers and computer literacy
 - A. Components of a computer
 - B. Categories of computers
 - C. Computer software
 - D. Elements of an information system
- II. Software
 - A. The operating system and the user interface
 - B. Business software applications
 - C. Object linking and embedding (OLE)
 - D. Word processing applications
 - E. Spreadsheet applications
- III. The systems unit
 - A. Data representation
 - B. Microprocessors (CPU)
 - C. Memory
 - D. Ports and connectors
 - E. Types of processing
 - F. Number systems
- IV. Input and output devices
 - A. The keyboard
 - B. Pointing devices
 - C. Source data automation
 - D. Other input devices
 - E. Types of output
 - F. Display devices
 - G. Printers
 - H. Other output devices
- V. Data storage
 - A. Magnetic disk storage
 - B. CED-ROM and optical links
 - C. Magnetic tape
 - D. Other types of storage devices
 - E. Holographic storage (the future of data storage)
- VI. Communications and networks
 - A. Transmission media
 - B. Line configurations
 - C. Characteristics of communication channels
 - D. Communication equipment
 - E. Communication networks
 - F. Network configurations

- G. Communication protocols
- VII. The Internet and the World Wide Web
 - A. History of the internet
 - B. The World Wide Web (WWW)
 - C. Intranets and firewalls
 - D. Internet services
 - E. Network computers
 - F. Conducting business on the Internet
- VIII. Operation systems and systems software
 - A. Functions of an operating system
 - B. Popular operating systems
 - C. Utilities
 - D. Language translators
- IX. Data management and databases
 - A. Data management
 - B. Types of file organizations
 - C. Maintaining data files
 - D. Databases defined
 - E. Types of database organization
 - F. Query languages
 - G. Database administration
 - H. Data warehousing and data mining
- X. Information systems
 - A. management levels in an organization
 - B. Functional areas of an organization
 - C. Types of information systems
 - D. Decision support systems
 - E. Expert systems
 - F. The role of PCs in information systems
- XI. Information systems development
 - A. The information systems development life cycle
 - B. Planning phase
 - C. Analysis phase
 - D. Design phase
 - E. Implementation phase
 - F. Support phase
- XII. Program Development and programming languages
 - A. The program development life cycle
 - B. Categories of programming languages
 - C. Modern and popular programming languages
 - D. Program development tools
- XIII. Security, privacy, and ethics
 - A. Computer security: risks and safeguards
 - B. Information privacy
 - C. Ethics and the information age
 - D. Internet security and privacy issues
- XIV. Multimedia
 - A. Multimedia defined
 - B. Multimedia applications
 - C. Multimedia equipment
 - D. Developing multimedia applications

B. Writing Assignments:

Writing assignments are required and may include, but are not limited to, the following:

- I. 1. Writing analyses of business information technology problems.
- II. 2. Writing short essays that demonstrate ability to describe and solve business information technology problems.
- III. 3. Writing reviews of current articles from business and computer periodicals and journals.
- IV. 4. Writing an analysis of business information technology problems and solutions.

V. 5. Completing projects in analyzing and solving realistic business problems.

C. Reading Assignments:

Reading assignments are required and may include but, are not limited to, the following:

- I. 1. Read articles in computer periodicals such as PC Week, PC Magazine, Byte, and Computer Edge.
- II. 2. Read weekly business publications such as Time, Business Week, and Newsweek.
- III. 3. Read appropriate articles from The Wall Street Journal
- IV. 4. Information from articles distributed by the instructor such as:
 - A. "A Step at a Time, " Computer Weekly, March, 1999, p. 34.
 - B. "Defusing the YK2 Time Bomb, " PC Week, April 1999, p. 81.
 - C. "Getting IT Right," Chemist and Druggist, March 1999, p. 19.
 - D. "The Trials of Setting Up an IT Structure," March 1999, p. 58
 - E. "What Does IT Want from Security?," Security Management, March 1999, pp. 76-83.

D. Appropriate Assignments that Demonstrate Critical Thinking:

Critical thinking assignments are required and may include, but are not limited to, the following:

- I. 1. Analyzing and comparing computer application models in contemporary situations.
- II. 2. Applying computer application theory and rules of model building to the analysis of contemporary computer and business issues.
- III. 3. Applying the various computer applications models to the analysis of alternative outcomes to contemporary business events.
- IV. 4. Writing position papers comparing and contrasting issues presented in current business and computer periodicals and journals.

E. Appropriate Outside Assignments:

Outside assignments may include, but are not limited to, the following:

- I. 1. Using the library, electronic, and other archival research sources to report on recent changes and development in data management.
- II. 2. Attending and reporting on field trips, lectures, and conferences attended relating to problem solving and analysis in business organizations.
- III. 3. Reviewing current periodicals and journals on a regular basis and reporting recent findings relating to systems analysis to the class.

2. METHODS OF EVALUATION:

A student's grade will be based on multiple measures of performance unless the course requires no grade. Multiple measures may include, but are not limited to, the following:

- I. Responses to objective examinations that test for definitions and computer concepts presented in the course. Responses to essay exams that test mastery of course objectives. Classroom simulations that test mastery of application of theory to business issues. Group projects that test mastery of course objectives. Class participation including critiques (oral and written) and comparisons of computer applications to solving modern business problems.

3. METHODS OF INSTRUCTION:

Methods of instruction may include, but are not limited to, the following:

- * Other (Specify)
- * Distance Education
- * 1. Lecture and visual aids.
- * 2. Discussion and problem solving in class.
- * 3. Inclass examination review
- * 4. Textbook.
- * 5. Handouts.

- * 6. Field trips.
- * 7. Guest speakers.
- * 8. Group projects.
- * 9. Required reading.
- * 10. Distance learning (if applicable)
 - * a. Regular electronic conferences
 - * b. Scheduled on-site conferences
 - * c. Electronic communication

4. REQUIRED TEXTS AND SUPPLIES:

Textbooks may include, but are not limited to:

TEXTBOOKS:

1. COURSE. DISCOVERING COMPUTERS - ENHANCED ED, 1 ed. SHELLY, ISBN: 0789546183
2. COURSE. CISC-M 181 (SCHULTZ)SHELLY/CA SHMAN CUST ED, 1 ed. SHELLY/CASHMAN, ISBN: 0789569566
3. COURSE. DISCOVER COMP 2000+WORD 97+EXCEL (PKG), 1 ed. SHELLY, ISBN: 078957053X
4. Capron. Computers, Tools for an Information Age, New York, NY, Addison-Wesley, 1998,
5. GATES. BUSINESS AT THE SPEED OF THOUGHT, 1 ed. WARNE, ISBN: 0446525685
6. SHELLY. MICROSOFT EXCEL 2000:COMP CONC & TECH, 1 ed. COURS, ISBN: 0789546752
7. SHELLY. MICROSOFT WORD 2000:INTRO, 1 ed. COURS, ISBN: 0789546841
8. Shelly, Cashman. Discovering Computer 2000, Cambridge, MA, Course Technology, 1999,

MANUALS:

PERIODICALS:

SOFTWARE:

SUPPLIES:

ORIGINATOR: Curricunet Version 2

CO-CONTRIBUTOR(S)

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