Las Positas College
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Course Outline for CIS 50

INTRO TO COMPUTING INFO TECH

Effective: Fall 2005

I. CATALOG DESCRIPTION:
CIS 50 — INTRO TO COMPUTING INFO TECH — 3.00 units

A comprehensive introductory overview of computers and information technology. Topics include: basic computer concepts and terminology, hardware, software, data and procedures, data communications, Internet, computer programming concepts, the system development process and new emerging technologies. Students will interactively solve applied problems utilizing software productivity tools such as: word processors, spreadsheets, databases, Email, WWW, and programming languages such as Visual Basic or HTML. Introduce the analytical, written and oral communication skills necessary to communicate effectively in a business computing environment.

3.00 Units Lecture

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	54.00
No Unit Value Lab	18.00
Total Hours:	72.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

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

A. Identify the use and function of computerized information systems within an organization's environment;
B. Explain the impact of the computer's capabilities upon society;
C. Identify basic computer hardware components;
D. Apply basic commands in Windows or other operating systems;
E. Identify the use and capabilities of applications such as word processors, spreadsheets, databases, graphics packages, email, WWW browsing and searching;
F. Describe the capabilities, use, and characteristics of programming languages in a computer environment;
G. Investigate current issues in computer environments such as security, society and business ethics over the use of computer data, and organization of data processing resources within the organization.
H. Demonstrate a mastery of techniques for writing technical reports, including informal memos, letters, and formal reports with illustrations;
I. Demonstrate a mastery of techniques of data collection, outline writing, and revising preliminary drafts;
J. Write grammatically correct, concise, clear, and objective technical report;
K. Demonstrate technical proficiency in personal computing skills and use the computer to solve problems by
    1. Demonstrating the ability to recognize and use technology as a productivity tool
    2. Selecting the appropriate technology components for the task to be completed
    3. Identifying and selecting appropriate technologies for use in their environment
    4. Demonstrating familiarity with the computing environment, including the hardware, operating system, the user interface, and the application
    5. Communicating electronically via email and other electronic technologies
    6. Applying productivity tools including, word processing, spreadsheets, databases, presentation software, as well as discipline specific tools
    7. Operating a computer in a networked environment

V. CONTENT:
A. Technical proficiencies
    1. Hardware
        a. Component Identification, basic setup and troubleshooting
    2. System Software
        a. Basic file management and common system activities
    3. Application Features
        a. Basic document creation, editing, saving, and use
            1. Word Processing

2. Spreadsheets
3. Databases
4. Presentation software

4. Communication
    a. Internet/WWW basics: access, browsing, searching, using email
    b. Websites evaluation

B. Research, written communication, and report writing
1. Define problem statement.
2. Use information technology tools to locate and retrieve relevant information.
3. Analyze wants and needs.
4. Write short executive summary to summarize the project or research, including recommendations.
5. Support recommendation with data.

C. Information processing competencies
1. Use information technology tools to locate and retrieve relevant information
2. Internet/WWW - Internet Browsers - Internet History - Privacy – Netiquette
3. Internet/WWW - Subject Directories and Search Engines – Evaluation
4. Censorship, Copyright, and Plagiarism
5. HTML and Creating Web Pages

D. Computer, Internet, Web and Email Basics
1. Computer Basics
2. Internet Basics
3. Web Basics
4. Email Basics

E. Computer Hardware
1. Data Representation and Digital Electronics
2. Microprocessors and Memory
3. Storage Devices
4. Input and Output Devices
5. How a Microprocessor Executes Instructions

F. Computer Software
1. Software Basics
2. Computer Operating Systems
3. Application Software
    a. Document Production software
    b. Spreadsheet software
    c. Database software
    d. Graphics software
    e. Video Edition software
    f. Software suites
    g. Business software
4. Software Installation and Copyrights
5. The Windows Registry

G. File Management, Virus Protection, and Backup
1. File Basics
2. File Management
3. Computer Viruses
4. Data Backup
5. File Formats

H. Internet and LAN Technology
1. Network Building Blocks
2. Local Area Networks
3. Internet Technology
4. Internet Access
5. OSI Layers and Protocol Stacks

I. Web Pages, Web Sites, and E-Commerce
1. Web Technology
2. Basic Web Page Authoring
3. Web Page, Extensions, Scripts, and Programs
4. E-Commerce
5. Encryption

J. Digital Media
1. Bitmap graphics
2. Vector and 3-D graphics
3. Desktop video
4. Digital sound
5. Data compression

K. Computer Industry, History, Products, and Careers
1. Computer history
2. The Computer and IT industries
3. Careers for Computer Professionals
4. Job Hunting Resources
5. The Future of Computing

L. Information Systems and Analysis
1. Information Systems
2. Systems Analysis
3. System Design
4. Implementation and Maintenance
5. Documentation Tools

M. Databases
1. File and Database concepts
2. Data Management Tools
3. Database Design
4. SQL
5. Data Analysis

N. Computer Programming
1. Programming Basics
    a. Programming languages and paradigms
    b. Program planning
    c. Program coding
    d. Program testing and documentation

2. Procedural Programming
    a. Algorithms
    b. Expressing an algorithm
    c. Sequence, selection, and repetition controls
    d. Procedural languages and applications
3. Object-Oriented Programming
4. Declarative Programming
5. Programming Tools
    a. Use basic tools provided by the Visual Basic VDE.
    b. Work with a form design grid.
    c. Select controls, such as buttons, menus, and dialog boxes for the graphical user interface of a computer program.
    d. Set properties that modify the appearance and operations of a control.
    e. Review the variety of events that can affect a control.
    f. Add code that specifies how a control responds to events.
    g. Save, test, debug a program.
    h. Repeat cycle until complete.
    i. Compile a program and run the executable version.

O. Beyond Desktop Computing
1. Large Scale Computing
2. Components of Large-Scale Computing Systems
3. Enterprise and High Performance Architecture
4. Quality of Service
5. Hierarchical Storage Management

VI. METHODS OF INSTRUCTION:
A. Lecture and classroom discussion with demonstations
B. Research and writing assignments
C. Lab experience: Hands-on lab assignments
D. Computer demonstrations with overhead display panel
E. Discussion boards
F. PowerPoint presentations
G. Periodic examinations
H. Chat rooms
I. Read text and other supplemental sources (example, Internet sites)

VII. TYPICAL ASSIGNMENTS:
A. Reading a) Read the chapter on File Management, Virus Protection, and Backup b) Read the U.S. Department of Labor Bureau of Labor Statistics Occupational Outlook Handbook Web Developer jobs 2. Hands-on lab assignment, such as: a) using word processing software to create a memo b) using a spreadsheet program to create a budget c) using a database to add, delete, find and edit records d) using a programming language to create a simple program e) create two short papers, one original, one plagiarized, upload and review results from Turnitin.com f) create a webpage and upload to a host site 3. Research, writing project a) Purchase of new computer i. Analysis of wants and needs ii. List of hardware, software, peripherals iii. Comparison shopping D. Lecture a) File and Database concepts b) Software Installation and Copyright

VIII. EVALUATION:
A. **Methods**

1. Exams/Tests
2. Quizzes
3. Research Projects
4. Papers
5. Oral Presentation
6. Group Projects
7. Class Participation
8. Lab Activities
9. Other:
    a. Methods
        1. Chapter quizzes, mid-term, and final examination
            a. Typical questions: Objective
                1. RAM stands for _____.
                    1. Random access memory
                    2. Read access memory
                    3. Random applied memory
                2. HTML stands for _____.
                    1. Hypertext Markup Language
                    2. Hide Text Markup Language
                    3. HyperTension Markup
        2. Graded hands-on lab assignments
            a. Word processing
            b. Spreadsheets
            c. Database
            d. Presentation software
            e. Programming
            f. Email
            g. Internet browsing and searching
        3. Research and writing projects
            a. Development of the basic composition skills required of the competent writer in business and professions. Through continuing directed practice in writing, students develop competence in the analysis, organization and presentation of facts and information in writing
            b. Projects can be individual or group writing assignments
            c. Oral presentations optional
        4. Relevant active participation

B. **Frequency**

1. Frequency
    a. Chapter quizzes, mid-term exam and a final examination
    b. Weekly hands-on lab assignments utilizing basic features of common software applications that demonstrate and reinforce mastery of the various software tools

c. One to two short research papers covering current computer topics

IX. TYPICAL TEXTS:

1. Parsons/Oja *New Perspectives on Computer Concepts.*, Course Technology, 2004.
2. Laudon/Traver/Laudon *Information Technology: Concepts and Issues.*, Course Technology, 2004.
3. Dui Kare *Computers and Information Processing: Concepts and Applications.*, South-Western, 2004.
4. Parsons/Oja *New Perspectives Internet Explorer 6 Brief.*, Course Technology, 2004.
5. Parsons/Oja *New Perspectives Windows XP Brief.*, Course Technology, 2004.
6. Hart *CIS 50 – Lab Workbook.*, Las Positas College, 2004.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

A. Mobile storage device: zip disk, flash drives, CD RW
B. Access to the World Wide Web with any major Web browser
C. Las Positas College, CIS 50 Lab Workbook
D. MS Office software: Word, Excel, Access, Powerpoint