

Prepared by:A.Agundez
Reviewed by:K. Bandy
Reviewed by:D. Layne
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Semester effective:

Computer Information Systems (CIS) 2020 Introduction to Computer Information Systems (3 Units) CSU
[formerly Computer Science 43]

Advisory: Eligibility for English 1500 strongly recommended

Hours and Units Calculations:

32 hours lecture. 64 Outside of class hours; 48 hours lab (144 Total Student Learning Hours) 3 Units

Catalog Description: This course is designed for students planning to enter computer science, science, business, education or other related fields. Learn basic through advanced computer concepts with an emphasis on both the personal computer and enterprise computing. Topics include hardware, application and system software, the Internet and World Wide Web, communications, e-commerce, societal issues, database management, systems analysis and design, programming, information systems career opportunities, certifications in the computer field, and computer trends. C-ID: BUS 140

Type of Class/Course: Degree Credit

Text: Vermaat, Misty, et al. *Enhanced Discovering Computers. 2017*. 1st ed., Cengage Learning, 2016.

Additional Instructional Materials: None

Course Objectives:

By the end of the course, a successful student should be able to:

1. demonstrate the use of computer terminology,
2. construct a data processing cycle,
3. demonstrate the use of email, word processing, spreadsheet, presentation, database, and Web-based application software tools,
4. develop an understanding of the uses of hardware,
5. develop an understanding of the role of computers in today's business, and
6. differentiate among the computer-based information systems.

Course Scope, Content:

Unit I Introduction to Computers, Devices and the Web

- A. Recognize the importance of computer literacy
- B. Define the term computer and identify devices
- C. Explain why a computer is a powerful tool
- D. Recognize the purpose of a network
- E. Discuss the uses of the Internet and World Wide Web
- F. Distinguish between installing and running a program

- G. Identify the types of software
- H. Describe the categories of computers
- I. Determine how elements of an information system interact
- J. Identify the types of computer users
- K. Discuss various computer applications in society

Unit II The Internet Websites and Media

- A. Discuss the history of the Internet
- B. Explain how to access and connect to the Internet
- C. Analyze an IP address
- D. Identify the components of a Web address
- E. Explain the purpose of a Web browser
- F. Search for information on the Web
- G. Describe the types of Web sites
- H. Recognize how Web pages use graphics, animation, audio, video, virtual reality, and plug-ins
- I. Describe the types of e-commerce
- J. Explain how e-mail, FTP, newsgroups and message boards, mailing lists, chat rooms and instant messaging work
- K. Identify the rules of netiquette
- L. Identify the steps and tools required for Web publishing

Unit III Evaluating Options for Home and Work

- A. Differentiate among various styles of system units
- B. Identify chips, adapter cards, and other components of a motherboard
- C. Describe the components of a processor and how they complete a machine cycle
- D. Identify characteristics of various personal computer processors on the market today
- E. Define a bit and describe how a series of bits represents data
- F. Explain how programs transfer in and out of memory
- G. Differentiate among various types of memory
- H. Describe the types of expansion slots and adaptor cards
- I. Explain the differences among a USB port, and other wireless ports
- J. Describe how buses contribute to a computer's processing speed
- K. Identify components in mobile computers and mobile devices
- L. Identify health concerns with using technology

Unit IV Programs and Application Software

- A. Identify the categories of application software
- B. Explain the role of the operating system
- C. Explain how to start and interact with application software
- D. Identify the key features of widely used business programs
- E. Identify the key features of widely used graphics and multimedia programs
- F. Identify the key features of widely used home, personal, and educational

- programs
- G. Identify the types of application software used in communications
- H. Discuss the advantages of using application software on the Web
- I. Describe the learning aids available for application software

Unit V Digital Security, Privacy, and Ethics

- A. Define what is a cybercrime
- B. Describe the types of computer security risks
- C. Identify ways to safeguard against computer viruses, worms, and Trojan horses
- D. Discuss techniques to prevent unauthorized computer access and use
- E. Identify safeguards against hardware theft and vandalism
- F. Explain the ways software manufacturers protect against software piracy
- G. Define encryption and explain why it is necessary
- H. Discuss the types of devices available that protect from system failure
- I. Explain the options available for backing up computer resources
- J. Identify safeguards that protect against internet security risks
- K. Recognize issues related to information accuracy, rights, and conduct
- L. Discuss issues surrounding information privacy

Unit VI Computing Components

- A. Describe the components of the motherboard
- B. Describe the characteristics of processors
- C. Explain the relationship of cloud computing
- D. Differentiate between types of memory
- E. Describes the different adapter cards
- F. Describe the types of buses
- G. Identify power supplies

Unit VII Input and Output

- A. Define input and output of computing
- B. List the characteristic of a keyboard
- C. Describe different mouse types and how they work
- D. Summarize how pointing devices work
- E. Explain how voice recognition works
- F. Describe various input devices for PC's, Tablets, and smart phones
- G. Explain how a digital camera works
- H. Describe the uses of PC video cameras, Web cams, and video conferencing
- I. Identify alternative input devices for physically challenged users
- J. Describe output displays, printers, speakers, headsets
- K. Describe types of printers, lasers, inkjet, 3D and mobile
- L. Describe data projectors and interactive whiteboards
- M. Identify assistive technology input and output

Unit VIII Digital Storage

- A. Discuss the various types of items that users store on computer
- B. Differentiate between storage devices and memory

- C. Describe the characteristics of a hard disk
- D. Identify the advantages of using a flash drive
- E. Describe the characteristics of SSD and physical hard drive
- F. Differentiate among optical disks
- G. Identify enterprise storage
- H. Discuss the difference between RAID, NAS and SAN

Unit IX Operating Systems and Resources

- A. Identify the types of operating system software
- B. Summarize the startup process on a computer and mobile devices
- C. Describe the functions of an operating system
- D. Discuss ways that operating systems differ from Windows and Mac
- E. Explain the purpose of the utilities included with most operating systems
- F. Identify various server operating systems
- G. Identify devices that use several mobile operating systems

Unit X

Communicating Digital Content and Wired and Wireless Networks

- A. Discuss the components required for successful communications
- B. Describe the uses of computer communications lines
- C. Identify various networks LAN, MAN, WAN and PAN
- D. List advantages of using a network
- E. Differentiate among office environment and home networks
- F. Describe the various network communications technologies
- G. Explain the purpose of communications software
- H. Describe commonly used communications devices
- I. Discuss different ways to set up a home network
- J. Identify various physical and wireless transmission media

Unit XI

Database Management and Application Development Tools

- A. Identify the qualities of valuable information
- B. Explain why data is important to an organization
- C. Discuss the terms character, field, record, and file
- D. Identify file maintenance techniques
- E. Differentiate between a file processing system approach and the database approach
- F. Discuss the functions common to most DBMSs
- G. Describe characteristics of relational, object-oriented, and multidimensional databases
- H. Explain how Web databases work
- I. Discuss the responsibilities of database analysts and administrators

Unit XII

Working in Enterprise, Systems, Certifications, Careers

- A. List the phases in the system development cycle
- B. Identify the guidelines for system development
- C. Discuss the importance of project management, feasibility assessment, data and information gathering techniques, and documentation
- D. Explain Enterprise Resource Planning
- E. Describe technology careers
- F. Describe technology devices and software sales
- G. Understand how IT professionals support an information system
- H. Discuss certifications in technology and software

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Course Scope and Content (Laboratory)::

Unit I Operating Systems

- A. Identify objects on the desktop
- B. Create folders
- C. Manage files

Unit II Email

- A. Using email and working with messages
- B. Managing your time using a calendar
- C. Manage contacts and personal information
- D. Learning task basics and creating notes
- E. Organizing information

Unit III Word Processing Application

- A. Design and construct a Word document
- B. Format text and paragraphs
- C. Change theme colors
- D. Insert pictures into a Word document
- E. Format pictures
- F. Add a page border
- G. Correct errors and revise a document
- H. Work with headers and footers
- I. Change margins
- J. Add borders to paragraphs
- K. Apply a Quick Style
- L. Set and use tab stops
- M. Insert a table, enter data into the table, and format the table

Unit IV Spreadsheet Application

- A. Design and construct an Excel worksheet
- B. Format worksheet elements using cell styles
- C. Apply a theme to a workbook

- D. Format numeric entries
- E. Change the worksheet name and tab color
- F. Correct worksheet errors
- G. Enter formulas
- H. Apply the SUM, AVERAGE, MAX, and MIN functions
- I. Add borders to worksheet elements
- J. Create charts

Unit V Presentation Application

- A. Design and construct a PowerPoint presentation
- B. Select a document theme and change theme colors
- C. Add new slides and change slide layouts
- D. Insert images into slides and slide backgrounds
- E. Format slide text
- F. Insert slide footers
- G. Apply slide transition effects and adjust duration
- H. Apply animation effects to slide elements
- I. Apply and format a WordArt style

Unit VI Database Application

- A. Create access tables to satisfy a collection of requirements
- B. Add, delete, and modify table records
- C. Specify validation rules, default values, and formats
- D. Create simple table queries
- E. Create and modify an Access form
- F. Create and modify an Access report

Unit VII Web Application

- A. Create a Gmail account to utilize an Internet radio service
- B. Create a Skype account to conduct Internet calls and video calls
- C. Design and create a multi-page, multimedia Web site utilizing Weebly.com

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 6 hours per week outside of the regular class time doing the following:

Methods of Instruction:

- 1. Lecture, demonstration, class discussion, and problem solving
- 2. Assigned reading from the texts and references
- 3. Assigned problems from the texts
- 4. Lab projects to be submitted by students

Methods of Evaluation:

- 1. Computational or non-computational problem-solving demonstrations, including:
 - a. exams
 - b. homework problems

- c. quizzes
- 2. Other examinations, including:
 - a. multiple choice
 - b. true/false
 - c. completion
 - d. using software tools in class

Supplemental Data:

TOP Code:	070200: Information Technology, Comp. Information Systems
SAM Priority Code:	C: Clearly Occupational
Distance Education:	Online; Offline
Funding Agency:	Y: Not Applicable(funds not used)
Program Status:	1: Program Applicable
Noncredit Category:	Y: Not Applicable, Credit Course
Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Course is not a basic skills course
Prior to College Level:	Y: Not applicable
Cooperative Work Experience:	N: Is not part of a cooperative work experience education program
Eligible for Credit by Exam:	E: Credit By Exam
Eligible for Pass/No Pass:	C: Pass/No Pass
Taft College General Education:	NONE
Discipline:	Computer Information Systems

