

COURSE OUTLINE **Computer Concepts**

Course Description

BE 160. Computer Concepts. 3 hours credit. This course will enable the student to function in a computer environment. The student will be introduced to computer concepts such as hardware, software, input, output, auxiliary storage, communications, operating systems, and environments, as well as computer security, ethics, and trends and issues in the Information Age. Hands-on units include using Windows and MS Office applications.

Course Relevance

The applications learned in this course will provide the student with the basis for understanding the concepts necessary for success in the Information Age. It also explains the effect of information technology on people and the environment and gives the student a basis for building the necessary skills to succeed in a technology-driven society.

Required Materials

Parsons, J. and Oja, D., *Computer concepts*. Boston, MA: Course Technology.

Parsons, J. and Oja, D., *Practical Microsoft Office 2010 (w/CD)*. Boston, MA: Course Technology.

Supplemental Materials

Software: Microsoft Office 2010 Professional or Ultimate version

* - For complete textbook information, refer to <http://www.butlercc.bkstr.com>

Learning Outcomes

The intention is for the student to be able to:

1. Utilize operating systems and various hardware components.
2. Utilize word processing, spreadsheet, database, presentation graphics, and Windows application features to complete tasks.

Learning PACT Skills that will be developed and documented in this course

Through involvement in this course, the student will develop ability in the following PACT skill area(s):

Technology Skills

1. General computer use
 - Through a variety of activities, the student will utilize current Microsoft Office software to create, store, retrieve, and modify files to produce and disseminate documents, spreadsheets, database management objects, and presentation graphics.

Major Summative Assessment Task(s)

These learning outcome(s) and the Learning PACT skill(s) will be demonstrated by:

1. Designing a project encompassing all basic components of Microsoft Office.
2. Identifying various computer concepts.

Course Content

- I. Skills or Competencies – Actions that are essential to achieve the course outcomes:
 - A. Discuss common uses of computers
 1. Identify the components of a computer
 2. Differentiate among the various categories of software
 3. Explain the purpose of a network
 4. Discuss the uses of the Internet and the World Wide Web
 5. Describe the categories of computers and their uses
 - B. Discuss system unit components
 1. Identify the components in the system unit and explain their functions
 2. Define a bit and describe how a series of bits is used to represent data
 3. Differentiate between the various types of memory
 4. Describe the types of expansion slots and expansion cards in the system unit
 5. Explain the difference between a serial and a parallel port
 - C. Describe input and output
 1. Describe types of input and output
 2. Identify various types of keyboards and pointing devices
 3. Explain how scanners and other reading devices work
 4. Describe the purpose of digital cameras, data projectors, fax machines & multifunction devices
 5. Discuss the various techniques used for audio and video input
 - D. Describe storage
 1. Differentiate between storage and memory
 2. Identify various types of magnetic storage media and storage devices
 3. Explain how data is stored
 4. Describe how a hard disk organizes data
 5. Differentiate between CD-ROMs and DVD-ROMs
 6. Identify uses of tapes, PC cards, smart cards, microfilm, and microfiche
 - E. Explain operating systems and utility programs
 1. Identify the various types of system software
 2. Differentiate between an operating system and utility program
 3. Describe the features of operating systems
 - F. Discuss multimedia
 1. Describe types of media used in multimedia applications
 2. List and describe the various uses of multimedia applications
 3. Identify types of multimedia hardware
 - G. Use fundamental features of word processing
 1. Create, open, save and print a document
 2. Format a document according to certain specifications
 3. Check for spelling and grammatical errors
 4. Rearrange sentences or paragraphs

5. Print a document
- H. Use fundamental features of a spreadsheet
 1. Create a spreadsheet using labels, values, and formulas
 2. Change cell text and number attributes
 3. Insert/delete rows in a spreadsheet
 4. Copy a formula, using both relative and absolute references
 5. Copy formulas
 6. Create a chart
 7. Save a spreadsheet
 8. Print a spreadsheet in portrait and in landscape form
- I. Use fundamental features of database software
 1. Create a database having separate fields
 2. Sort the database
 3. Create and print a report using a filter
- J. Use fundamental features of presentation software
 1. Create a presentation document that meets certain requirements
 2. Add special effects to the presentation
 3. Print the slides created
- K. Discuss communications and networks
 1. Explain the difference between a local area network and a wide area network
 2. Differentiate between peer-to-peer LANs and client/server LANs
 3. Discuss the various communications protocols, such as Ethernet and file transfer
 4. Identify uses of intranets and extranets
- L. Describe the use of the Internet
 1. Describe how the Internet works
 2. Describe how graphics, animation, audio, video, and virtual reality are used on the World Wide Web
 3. Describe the uses of electronic commerce (e-commerce)
 4. Explain how e-mail, FTP, Telnet, newsgroups and discussion boards, mailing lists, and chat rooms work
 5. Identify the rules of netiquette
 6. Discuss security precautions for the Internet and use of computing resources
- M. Use basic features of e-mail
 1. Send and receive an e-mail message
 2. Attach a file to an e-mail message
- N. Discuss security and privacy as they relate to computers
 1. Identify the various types of security risks and how to safeguard computers
 2. Describe how a computer virus works and the steps individuals can take to prevent viruses
 3. Explain why computer backup is important and how it is accomplished
 4. Discuss the steps in a disaster recovery plan
- O. Discuss the legal and ethical issues relating to computers
 1. Discuss legal issues of copyrighted software, misuse of passwords, interference with transmission, damage to operating systems and deliberate virus infection

2. Discuss the principles of ethical behavior that carry over into a computer environment
3. Identify and explain Internet-related security and privacy issues

Learning Units

- I. Operating systems and hardware
 - A. Introduction to computers
 - B. The components in the system unit
 - C. Input
 - D. Output
 - E. Storage
 - F. Operating systems and utility programs
 - G. Multimedia
- II. Networking and the internet
 - A. Security and Privacy
 - B. Legal issues and ethics
- III. Computer software
 - A. Fundamentals of using word processing
 - B. Fundamentals of using a spreadsheet
 - C. Fundamentals of using database software
 - D. Fundamentals of using presentations

Learning Activities

Learning activities will be assigned to assist the student to achieve the intended learning outcome(s) through instructor-led demonstration and class discussion, drills/skill practice, and other activities at the discretion of the instructor.

Grade Determination

The student will be graded on learning activities and assessment tasks. Grade determinants may include the following: daily work, quizzes, lesson or unit tests, comprehensive examinations, projects, and other methods of evaluation at the discretion of the instructor.