**SECTION I**

SUBJECT AREA AND COURSE NUMBER

OFSY 555

COURSE TITLE

MICROCOMPUTER BASICS

TYPE COURSE

NON-FEE                                    VOCATIONAL

CATALOG COURSE DESCRIPTION

This course is an introduction to the microcomputer including:  computers and how they operate, types of computers, computer components (hardware), operating systems, graphical user interface (GUI), and methods of input and output.  Business/personal software applications such as word processing, spreadsheets, and database management will be presented.  Integration of software applications will be incorporated.  (FT)

LECTURE/LABORATORY HOURS

    54

NOTE:  In order to earn one (1) unit of high school credit, students will be required to complete an additional 16 hours of work in an open lab for a total of 70 hours.

ADVISORIES

NONE

RECOMMENDED SKILL LEVEL

Eighth grade reading level, ability to communicate effectively in the English language.

INSTITUTIONAL STUDENT LEARNING OUTCOMES

1.  Social Responsibility
    SDCE students demonstrate interpersonal skills by learning and working cooperatively in a diverse environment.
2.  Effective Communication
    SDCE students demonstrate effective communication skills.

INSTITUTIONAL STUDENT LEARNING OUTCOMES (CONTINUED)

3.  Critical Thinking
    SDCE students critically process information, make decisions, and solve problems independently or cooperatively.
4.  Personal and Professional Development
    SDCE students pursue short term and life-long learning goals, mastering necessary skills and using resource management and self advocacy skills to cope with changing situations in their lives.

COURSE GOALS

Introduce computer functions, terminology, and how information is processed. Develop problem solving techniques to be flexible in a rapidly changing technology. Enhance the students' reading writing, math and communication skills, enabling them to process technical information, and interact with employers and customers. Present different types of microcomputers, their components and use. Demonstrate and provide hands-on training in safe and correct use of hardware, a local area network (LAN), storage media, operating systems, and software applications (word processing, spreadsheets and database management) simulating a business environment. Describe how changing technology impacts security, privacy and other ethical problems. Introduce and relate training to a variety of career choices in the computer field.

COURSE OBJECTIVES

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

1.  Explain computer functions and how information is processed.
2.  Compare different types of microcomputers and their use and applications.
3.  Identify various computer hardware components: Floppy and hard drive, keyboard, mouse, modems, monitor, computer processing unit (CPU), memory, printer, storage media (magnetic and compact disks, tape) and other peripherals, and explain how they work together.
4.  Explain and use commonly used computer terms.
5.  Use equipment safely and correctly.
6.  Prepare storage media (i.e. zip disk, flash or thumbnail drive) for use and maintain correct care and protective measures in caring for diskettes.
7.  Identify and demonstrate use of a variety of software applications. Explain the relationship between tasks and the preferred applications.
8.  Demonstrate use of an operating system with application software and for file management.
9.  Use and interpret hardware and software manuals, industry periodicals, magazines, videos, user groups, tutorials and on-line help.
10. Explain the need for security measures such as software licensing agreements, copyright laws and virus protection.
11. Demonstrate local area network (LAN) operations such as login, logout, using menus, and interfacing with peripherals (e.g., printer).

## SECTION II

COURSE CONTENT AND SCOPE

All topics of the course contain the following:

1. System Description
2. Theory of Operation
3. Component Function
4. Trouble Shooting Procedures
5. Related Terminology

1. Overview of Computers
    1.1. Information processing
        1.1.1. Input
        1.1.2. Output
    1.2. Computer functions and applications
    1.3. Types of computers
        1.3.1. Super computer
        1.3.2. Mainframe
        1.3.3. Minicomputers
        1.3.4. Microcomputers
        1.3.5. Handheld
    1.4. Types of resources
        1.4.1. Hardware and software manuals
        1.4.2. Industry periodicals
        1.4.3. Magazines
        1.4.4. Videos
        1.4.5. Tutorials
        1.4.6. On-line help
    1.5. Computer terminology
    1.6. Connectivity
    1.7. Multitasking
    1.8. Multimedia
    1.9. Security
        1.9.1. Destructive outside factor (natural disasters)
        1.9.2. Virus infection
        1.9.3. Theft or loss due to crime
        1.9.4. Privacy
        1.9.5. Licensing agreements
        1.9.6. Copyright laws
    1.10. Career choices in the computer field
2. Hardware
    2.1. Access system
        2.1.1. Load programs and files
        2.1.2. Logon to network (if applicable)

## COURSE CONTENT AND SCOPE (CONTINUED)

- 2.2. Change printers and defaults
- 2.3. Components
  - 2.3.1. Floppy and hard drive
  - 2.3.2. Keyboard
  - 2.3.3. Monitor
  - 2.3.4. Computer processing unit (CPU)
  - 2.3.5. Printer
  - 2.3.6. Mouse
  - 2.3.7. Other peripherals
- 2.4. Information input
  - 2.4.1. Keyboard
  - 2.4.2. Mouse
  - 2.4.3. Modem
  - 2.4.4. Scanner
  - 2.4.5. Other peripherals
- 2.5. Information output
  - 2.5.1. Monitor
  - 2.5.2. Printer
  - 2.5.3. Disk drives and storage media
  - 2.5.4. Modem
  - 2.5.5. Other peripherals
- 2.6. Software
  - 2.6.1. Categories of software
    - 2.6.1.1. Public domain
    - 2.6.1.2. Shareware
    - 2.6.1.3. Commercial
- 2.7. Type of software
  - 2.7.1. Application software: current word processing
  - 2.7.2. Spreadsheets
  - 2.7.3. Database management
  - 2.7.4. Communications
- 2.8. Safe and correct use of
  - 2.8.1. Multimedia
  - 2.8.2. System software
    - 2.8.2.1. Operating systems
      - 2.8.2.1.1. Basic command-line operating system, such as disk operating system (DOS)
  - 2.8.3. Graphical user interface (GUI) such as Window, OS/2
  - 2.8.4. Future trends
    - 2.8.4.1. Multi-users
    - 2.8.4.2. Multitasking
  - 2.8.5. System commands
  - 2.8.6. Default techniques
  - 2.8.7. Utility programs
    - 2.8.7.1. File management
    - 2.8.7.2. Project managers

COURSE CONTENT AND SCOPE (CONTINUED)

            2.8.7.3.   Calendars
            2.8.7.4.   Schedulers
  2.9.   Storing information
       2.9.1.  Disk drive
       2.9.2.  Types of storage
  2.10.  Components of a disk
  2.11.  Correct use and care of disks
       2.11.1. Formatting
       2.11.2. Handling
       2.11.3. Storing

3. File Management Using the Operating System
  3.1.   Creating, naming
  3.2.   Opening, closing, saving
  3.3.   Renaming, copying, moving
  3.4.   Deleting, editing
  3.5.   Backing up
  3.6.   Organizing into directories
       3.6.1.  Creating
       3.6.2.  Removing, changing

4. Communications
  4.1.   Network basics - overview and use of a local area network (LAN)
       4.1.1.  Network operations
            4.1.1.1.   Logging in and out
            4.1.1.2.   Using menus
            4.1.1.3.   Accessing the operating system
       4.1.2.  Components of a network
            4.1.2.1.   File server
            4.1.2.2.   Client server
            4.1.2.3.   Terminal
            4.1.2.4.   Workstation
       4.1.3.  Shared resources
            4.1.3.1.   Printer
            4.1.3.2.   Scanner
            4.1.3.3.   Fax
            4.1.3.4.   Other peripherals

5. Communications Services
  5.1.   Bulletin boards
  5.2.   Electronic mail
  5.3.   Fax machines
  5.4.   Voice messaging system

6. Wide Area Networks (WAN)
  6.1.   Commercial services
       6.1.1.  Requirements to use
            6.1.1.1.   Materials
            6.1.1.2.   Hardware (modem)
            6.1.1.3.   Software (communications)

COURSE CONTENT AND SCOPE (CONTINUED)

      6.1.2. Accessing
            6.1.2.1.   Membership fee
            6.1.2.2.   Password
      6.1.3. Types of services
            6.1.3.1.   Commercial
            6.1.3.2.   Internet
            6.1.3.3.   Components
            6.1.3.4.   Requirements to use
            6.1.3.5.   Utilities
            6.1.3.6.   Ping
            6.1.3.7.   E-mail
  6.2.   Effects of computer technology on users
      6.2.1. Ergonomics
            6.2.1.1.   Mental
            6.2.1.2.   Physical
            6.2.1.3.   Eyestrain
            6.2.1.4.   Neck and back injuries (REI) stress
            6.2.1.5.   Electromagnetic field emissions (EMF)
      6.2.2. Security
            6.2.2.1.   Virus protection
            6.2.2.2.   Computer crime
            6.2.2.3.   Electronic break-ins
            6.2.2.4.   Natural hazards
      6.2.3. Privacy issues
            6.2.3.1.   Collection and use of data about individuals
            6.2.3.2.   Ethics
            6.2.3.3.   Laws to protect use
  6.3.   Software licensing agreements
      6.3.1. Copyright laws
      6.3.2. Network licensing for multiple computers

APPROPRIATE READINGS

Appropriate readings may include, but are not limited to, textbooks, supplemental reading assignments, industry-related periodicals or magazines, manuals, on-line help and tutorials.

WRITING ASSIGNMENTS

Writing assignments may include, but are not limited to, compiling a report, providing written answers to assigned questions related to computers, composing documents using application software, composing electronic mail messages, outlining procedures, taking notes, maintaining a notebook/portfolio of class assignments and projects, or completing projects that may contain word processing.

## OUTSIDE ASSIGNMENTS

Outside assignments may include, but are not limited to, reading and researching materials related to class from a variety of resources, preparing written assignments, job shadowing, volunteering in a computer-related environment, shopping for a computer or other related equipment, visiting a computer repair shop and completing assigned projects alone or with a group.

## APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

Assignments which demonstrate critical thinking may include, but are not limited to, analyzing and evaluating (both written and oral) reading and/or classroom material, analyzing problems and determining which software applications can be used to solve them, understanding the capabilities and limitations of various software and hardware tools, evaluating a set of criteria, planning and integrating several software tools to solve a problem.

## EVALUATION

Evaluation methods may include, but are not limited to:

1.  Written and practical tests.
2.  Completion of assigned exercises.
3.  Attendance and punctuality.
4.  Completion of performance competencies.
5.  Participation in class.

Upon successful completion of each individual course a Certificate of Course Completion will be issued.  Upon successful completion of all courses included in the program a Certificate of Program Completion will be issued.

## METHOD OF INSTRUCTION

Methods of instruction may include, but are not limited to, lecture/discussion, hands-on demonstrations, computer assisted instruction, and lab assignments.  Other unique instructional requirements, such as field trips and computer access, may be utilized.

This course, or sections of this course, may be offered through distance education.

## TEXTS AND SUPPLIES

Texts must be current and relevant to the software used such as:

*Shelly Cashman Series*, International Thompson Publishing, Inc., latest edition
*Using Computers, a Gateway to Information, Brief Edition*, Boyd & Fraser Publishing, latest
    edition
*New Perspectives on Computer Concepts*, June Jamrich Parsons, latest edition

PREPARED BY ___Office Systems Professors_____ DATE _April 21, 1987_____

REVISED BY _____Marcy Schroeder_____ DATE _September 15, 1989_____

REVISED BY _____Joan Wells_____ DATE _August 23, 1995_____

REVISED BY _____Sharian Lott_____ DATE _February 22, 2007_____

REVISED BY _Instructional Services/SLO's Added____ DATE _____April 25, 2013_____

Instructors must meet all requirements stated in Policy 3100 (Student Rights, Responsibilities and Administrative Due Process), and the Attendance Policy set forth in the Continuing Education Catalog.

REFERENCES:

San Diego Community College District Policy 3100
California Community Colleges, Title 5, Section 55002
Continuing Education Catalog