

**COLLIN COUNTY COMMUNITY COLLEGE DISTRICT
DIVISION OF BUSINESS AND COMPUTER SCIENCE
COURSE SYLLABUS**

COURSE NUMBER: COSC 1300
COURSE TITLE: COMPUTER ESSENTIALS
CREDIT HOURS: 3 **Class Hours:** 3 **LAB HOURS:** 1
PRE-REQUISITES: NONE

INSTRUCTOR INFORMATION:

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CATALOG DESCRIPTION:

Study of basic hardware, software, operating systems and current applications and issues. Required labs introduce students to Windows, the Internet, word processing, spreadsheets, databases and programming concepts. This course may be substituted with any other COSC or CSCI course upon successful completion of an assessment test of COSC 1300 course objectives.

TEXTBOOK:

Discovering Computers 2003, Concepts for a Connected World, Gary Shelly, Thomas Cashman and Misty Vermaat, Course Technology, 2002.

Microsoft Office XP, Introductory Concepts and Techniques, Gary Shelly, Thomas Cashman and Misty Vermaat, Course Technology, 2002.

SUPPLIES:

Two 3 1/2" HD diskettes (High density, 1.44 Mb capacity diskette).
One packet of SCANTRON (FORM 882-ES)

COURSE REQUIREMENTS:

ALL STUDENTS MUST:

1. Take all unit exams.
2. Complete all lab projects.
3. Take the final exam.
4. Complete all other oral and written assignments, as assigned.

METHOD OF PRESENTATION:

Class time will be spent in lecture/discussion over the assigned reading material. Computer lecture/demonstrations will be given in class. The computer lab will be used for hands-on experience and instructions.

METHOD OF EVALUATION:

Assignments 1-5: 50 points each
Exams 1-5: 100 points each
Semester Project: 50 points

The average will determine the letter grade, a 90 or above receives an A, 80-89 receives a B, etc.

Course Requirement Deadlines: Credit will be given for ONLY those exam(s), program(s), and/or project(s) completed and/or turned in no later than the deadlines as announced by your instructor unless prior arrangement has been made with the instructor.

NOTE: Students that have already mastered the competencies for this course may obtain credit for the course thru Credit by Exam (CBE). The procedures are provided on the coordinators website at: <http://iws.ccccd.edu/bblitt/cosc1300/cbeproc.htm>. Students currently enrolled in the course must complete the CLEP portion prior to Census Day.

No Exception To This Policy Will Be Made.

ATTENDANCE POLICY:

YOUR attendance is the single greatest predictor of your success. Student attendance at **EVERY** class is important and expected. Please see the instructor regarding absences or class conflicts.

ACADEMIC ETHICS:

You are expected to create, edit, format, and print out your own assignments, take tests without notes or other outside assistance, and write, debug, and print out your own BASIC programs. **ALL WORK IS EXPECTED TO BE YOUR OWN.** If cheating is detected, all parties involved will be denied any points for that project or exam. The exam or project will be given to the Dean for any further action as deemed appropriate. Other offenses include:

“Misuses of college computing systems to harass other (including, but not limited to, sending, distributing, posting or displaying offensive or threatening material, forging mail messages, sending chain letters, etc.), which may result in the suspension of computing privileges as well as disciplinary action.”

See the Student Handbook, Code of Conduct.

AMERICANS WITH DISABILITIES ACT COMPLIANCE:

It is the policy of Collin County Community College to provide reasonable and accommodations for individuals with documented disabilities. This college will adhere to all applicable Federal and State laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ACCESS Office (G-200) 881-5898, (TDD - 881-5950) in a timely manner if he/she desires to arrange for accommodations.

LEARNING OUTCOMES:

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

1.0 DEMONSTRATE COMPETENCY IN GENERAL COMPUTER CONCEPTS.

- 1.1 Discuss the historical contributions of Charles Babbage, Ada Byron, and Jack Kilby to computer science.
- 1.2 Contrast the five generations of computer hardware and software.
- 1.3 Define what a computer is and list the four elements that make up a computer system: Hardware, Firmware, Software, User.
- 1.4 List the four parts of the hardware system: Input, Processing, Output; and Secondary Storage.
- 1.5 Define what software is and list the three types of software: Systems software, Applications software, and Computer languages.
- 1.6 List and compare the two data processing methods: off-line (batch) and on-line (real-time, time-share, interactive).
- 1.7 Compare the two computer types (analog and digital) and list several examples of each.

- 1.8 Compare microcomputers, minicomputers, and mainframe computers.
- 2.0 DEMONSTRATE COMPETENCY IN COMPUTER HARDWARE AND FIRMWARE CONCEPTS.**
- 2.1 List, point out, and discuss the functions of major, internal architectural features of a microcomputer: Motherboard, CPU, Co-processor, ROMs, RAM, BIOS ROMs, EPROMs, Expansion Slots, DIP switches, and the power supply.
- 2.2 List and compare several common input devices: Keyboards, Mouse, Joystick, POS terminals, OCR , OMR (ScanTron), MICR, Light Pen, Touch screen, and Digitizer Pad.
- 2.3 List examples of, and compare impact and non-impact printers and plotters.
- 2.4 Discuss the MODEM with regard to its use in telecommunications and its use as an interface between analog and digital computer systems.
- 2.5 List, point out, and discuss the physical features and functions of the floppy and micro diskette.
- 2.6 Discuss the format of Direct Access Storage Devices (DASD): Diskettes, Hard Disk.
- 2.7 Discuss virtual (RAM) disk and optical disk storage.
- 2.8 Complete the disk handling lab project.
- 2.9 Discuss the format and physical features of sequential access storage devices (SASD).
- 2.10 List and discuss the functions of the CPU components.
- 2.11 Identify the terms BIT, Byte, Kilobyte, Megabyte, Gigabyte, Word, and Address and relate these to primary (RAM) storage.
- 2.12 Compare RAM, ROM, PROM, and EPROM.
- 2.13 Convert data among the decimal, binary, and hexadecimal number systems.
- 2.14 Discuss how data is represented in microcomputer memory by the ASCII code.
- 3.0 DEMONSTRATE COMPETENCY IN OPERATING SYSTEMS/UTILITY SOFTWARE KNOWLEDGE AND USE.**
- 3.1 Define what an operating system is, and discuss the components of the control programs and the service (utility) programs.
- 3.2 Contrast and compare operating systems.
- 3.3 Complete the DOS lab project.
- 4.0 DEMONSTRATE COMPETENCY IN APPLICATION SOFTWARE.**
- 4.1 Define word processing and list the basic functions of word processing: Enter, Edit, Format, Print text.
- 4.2 Identify the terms: Word Wrap, Insert Mode, Overwrite Mode, Block, Justification, Font, Search and Replace, Mail Merge, Spelling Checker, Thesaurus, Style Checker, Print (Dot) commands, Scrolling, and WYSIWYG.

- 4.3 Define desktop publishing and discuss hardware and software requirements.
- 4.4 Complete the word processing lab.
- 4.5 Describe the organization of sequential, direct, and indexed sequential files, their advantages and disadvantages.
- 4.6 Define File, Record, Field.
- 4.7 Define a database and give advantages for the use of databases.
- 4.8 Discuss relational database systems.
- 4.9 Work through database package examples.
- 4.10 Complete the database lab.
- 4.11 Explain what a spreadsheet package is and compare it with an integrated spreadsheet.
- 4.12 Define, cell, cell pointer (cursor), window, label, value, formula, function, local and global format, width, relative addresses, and what-if analysis.
- 4.13 Complete the spreadsheet lab.
- 4.14 Explain what a graphics package is and its uses in business and industry.
- 4.15 Discuss the characteristics of and explain when one would use a pie chart, line chart, and bar chart.
- 4.16 Complete the graphics lab.

5.0 DEMONSTRATE COMPETENCY IN PROGRAMMING LANGUAGES.

- 5.1 Describe and contrast the principal types of computer languages: Machine language, Symbolic language (Assembly), High level procedural languages (BASIC, COBOL, Pascal, FORTRAN, C, and Ada), High Level non-procedural languages (LISP, LOGO, and query languages), and Natural-languages (NaturalLink).
- 5.2 Identify, create, and read basic flowchart symbols: Decision Block, Input/Output Block, Terminals, Connectors, Flow arrows, and Process Block.
- 5.3 Identify and use BASIC commands/keywords: INPUT, PRINT, LPRINT, LET, '(REM), FOR/NEXT, IF/THEN, IF/THEN/ELSE, LIST, LLIST, RUN, END, SAVE, LOAD, DELETE, GOTO, TAB (with PRINT), USING (with PRINT), AUTO, AND RENUM.
- 5.4 Identify and use modular programming techniques with the BASIC keywords GOSUB/RETURN.
- 5.5 Write BASIC programs that demonstrate mastery of good documentation and interactive programming techniques: heading block, variable dictionary, remarks, flowchart, meaningful variable names, use of blank space, and indenting techniques, meaningful user prompts, meaningful output statements.
- 5.6 Complete the BASIC programming lab projects.

6.0 DEMONSTRATE COMPETENCY IN ISSUES RELATED TO INFORMATION SYSTEMS AND SOCIETY.

- 6.1 Discuss why cyberphobia exists in the work place.
- 6.2 Define and discuss ergonomics and how these are important to people using computers in the work place.
- 6.3 Describe how computers are affecting us individually and the productivity of society.
- 6.4 Discuss the major problems that have been caused by the introduction of computers: computer crime, computer overuse (Loss of productivity), difficulty of use, impersonation, and invasion of privacy.
- 6.5 Discuss computer careers and the earning potential of those careers.
- 6.6 Discuss some of the predictions and trends for future computer use in our lives individually and in society.
- 6.7 Complete the term (capstone) project.

WORKPLACE COMPETENCIES

1. **Resources: Identifies, organizes, plans and allocates resources.**
COSC 1300 is task intensive, requiring lab assignments to be turned in complete and on time. The student must be able to plan and prioritize his time, use lab equipment and resources efficiently, organize the finished product, and make timely submissions of all requirements.
2. **Interpersonal: Works with the local and global community**
Classroom lecture/discussion plus the lab requirements of COSC 1300 encourages group interaction. Students work together to discover different solutions to similar problems. Class makeup is international, exposing students to diverse cultures. This group interaction gives students a broad base of problem solving techniques.
3. **Information skills: Acquiring and using information**
COSC 1300 is a course where students become familiar with the many different uses of computers and technology. There is constant acquiring, organizing and interpreting new information. The computer is central all work done in this class. Students demonstrate these competencies by daily performing complex operations with the computer and turning in the results.
4. **Systems: understand, monitor and improve systems**
In COSC 1300 students learn how to design, built and implement new systems. Management, Information Technology and System Analysis and Design is covered. Students must use the lab network system to complete their lab assignments.
5. **Technology: Selecting, applying and maintaining technology**
In COSC 1300 students learn how to determining individual computer needs, purchase required software, and use computer applications. The course is dedicated to providing each student the skills to use the latest technology in a appropriate, professional way. Trouble shooting and maintaining their systems is a daily task.
6. **Basic skills: Reading, Writing, Math, Listening, Speaking**
COSC 1300 is highly technical and constantly changing due to rapid growth in computer technology. All the basic skills are used constantly. They are not only desirable, but essential to successful completion of the course.
7. **Thinking skills: Creative thinking, problem solving, reasoning and learning**
COSC 1300 requires a very high level of cognitive thinking. Tasks performed on a regular basis are: Using many different applications, producing documents, preparing presentations, using the internet for research and maintaining data files. All of these require the highest level of thinking skills.
8. **Personal Qualities: Responsibility, sociability, self-management, integrity and honesty.**

COSC 1300 promotes these personal qualities by encouraging individual responsibility for assignments being completed and turned in on time. Working in a large lab environment requires social and personal management skills.

Schedule – Fall 2003 (TENTATIVE)

Date	Material	Due
27-Aug	Chapter 1	
3-Sep	Chapter 2	
10-Sep	Chapter 3	
17-Sep	Chapter 4	Exam I/Lab 1
24-Sep	Chapter 5	
1-Oct	Chapter 6	
8-Oct	Chapter 7	Exam II/Lab 2
15-Oct	Chapter 8	
22-Oct	Chapter 9	
29-Oct	Chapter 10	Exam III/Lab 3
5-Nov	Chapter 11	
12-Nov	Chapter 12	
19-Nov	Chapters 13 & 14	Exam IV/Lab 4
26-Nov	Chapter 15	
3-Dec	Chapter 16/Review	Exam V/Lab 5