

FOLSOM CORDOVA UNIFIED SCHOOL DISTRICT

**Course Outline
Information Technology Essentials 2 (START)**

Date: April 2003

Subject Area: Technology

Proposed Grade Level(s): 10 - 12

Course Length: 1 Year

Grading: A-F

Number of Credits: 5/Semester

Prerequisites: Knowledge of MS/PC operating systems and knowledge of IBM personal computers, their clones and compatibles. Students must have prior approval of the instructor.

BRIEF COURSE DESCRIPTION:

This is an advanced course in personal computer hardware and configurations. This course introduces students to hardware, operating systems, and applications used in the current information technology systems. Students will learn to diagnose, troubleshoot, repair, refurbish, and upgrade and build personal computer systems that will eventually be used on networks in school environments. The students provide services which may be adjunct to institutionalized IT services of the school or school district.

GENERAL GOALS/PURPOSES:

Students will:

- Be able to diagnose, troubleshoot, and repair a computer
- Be able to match parts and build a working computer
- Be able to integrate computer on an information systems network
- Be able to identify and explain the function of computer hardware
- Be able to select, install, and configure operating system software
- Be able to diagnose and troubleshoot network problems
- Be able to acquire jobs, interpersonal skills, and work habits that will lead to entry level employment or continue to post secondary education
- Be able to demonstrate effective oral and written communication skills

STUDENT READING COMPONENT:

Students will be able to read, understand, and interpret textbooks, manuals, and Internet bulletins to facilitate in computer and network repair.

STUDENT WRITING COMPONENT:

- Students will write detailed descriptions of technical processes used in building computers and loading software.
- Students will employ various forms of writing including step-by-step directions, check sheets, inventory management documents, and evaluation of services to maintain warranties of computers.

- Students in team partnerships, through collaboration efforts, will produce technical documents and scripts that will result in media material used for presentations.
- Students will examine their work for appropriate convention of the English language.

STUDENT ORAL COMPONENT:

Students will communicate orally in giving directions instructions, and communicate through peer tutoring.

DETAILED UNITS OF INSTRUCTIONS:

Quarter 1

Troubleshoot, repair, upgrade, and install computer hardware

Students will learn common problems, repairs, and compatibility issues associated with of the following categories of hardware:

- Case, power supply, connectors and switches
- Motherboard/CPU/fan/memory
- Magnetic storage: hard drive/floppy drive
- Optical storage: CD-ROM/DVD/writables/re-writables
- Video/display/monitors
- Audio/network/modem
- Input devices: mouse/keyboard/scanner
- Output devices: printers
- Build a computer and configure O. S.
- Perform work order repairs for SPIRIT/START procured computers

Quarter 2

Troubleshoot, install, configure and install operating system and Netware

- Develop communication skills
- Understand customer relations and satisfaction
- Organize and manage a work order control system
- Understand and repair operating systems problems using: Windows 98, Windows XP, Windows 2000, and others
- Understand and use hardware/software for digital photography
- Write and publish "How to" manual
- Install and configure NOVELL NetWare for clients
- Perform work order repairs for SPIRIT/START procured computers

Quarter 3

Organization and problems of information-communication systems

- Learn components and protocols used for Local Area Networks
- Learn components and protocols used for Wide Area Networks
- Learn components and protocols used for Telephone Systems
- Learn components and protocols used for Internet Systems
- Construct peer to peer networks without switches
- Construct peer to peer network with switches
- Obtain information on career opportunities in information technology
- Perform work order repairs for SPIRIT/START procured computers

Quarter 4

Administration of networks

- Install, configure and troubleshoot network printer problems
- Understand role of network administrator/technician
- Understand functions of server and client computers
- Construct and configure server with Windows 2000 O.S.
- Construct client-server network with switch and cabling
- Acquaint students with current industry standard certifications: A+, Diagnostic Service Technician (DST), I Net+

THIS COURSE WILL PREPARE STUDENTS FOR THE HSEE AND/OR FCUSD EXIT EXAMS IN:

Writing and Reading

LAB FEE REQUIRED: None

SUBJECT AREA CONTENT STANDARDS TO BE ADDRESSED:

Information technology industry sectors standards 2003:

- Information Technology: a, c, d, f, h, i, j, k.
- Information Support Services: e, f, g, h.
- Media Support and Services: g, h, j, k, n
- Network Communications: a, b, c, d, e, g, h, i, j, m, p.
- Programming and Systems Development: f, g, h, i, m.

DISTRICT ESLRs TO BE ADDRESSED:

The following skills will be developed to help prepare our students to succeed in a rapidly changing society. These skills are designed to be clear learning targets for students and teachers and are aligned with our ESLRs.

- **Self-directed Learners** - The student will understand and use technology to find information, research subjects, and complete classroom assignments.
- **Effective Communicators** - The student will understand and be able to demonstrate an understanding of technology to complete classroom assignments.
- **Quality Producers/Performers** - The student will understand and be able to use multimedia applications to complete classroom and public presentations.
- **Constructive Thinkers** - The student will use and understand which communication vehicle is appropriate for completing classroom assignments.
- **Collaborative Workers** - The student will demonstrate a level of technical literacy to allow him to decide where technology systems are most effectively maintained.
- **Responsible Citizens** - The student will understand the legal and ethical ramifications of the use and misuse of technology