



B A STAR

Basic and Advanced Science and Technology Academies of Research

Computer Technology Course Syllabus & Schedule

Instructors:

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Course Location:

Rooms 127, 131, & 133

O'Connell Technology Center

CSU, Chico

This course is designed to teach the student the basics of computer technology, and to provide the student with hands-on experience in the configuration of hardware and software for a personal computer (PC). The course is modeled after a Cisco A+ Certification course and uses portions of courseware provided by Hewlett Packard Systems. Course topics will include; terminology, safety, assembly, configuration, troubleshooting, and basic repair of microcomputers.

Upon completion of the course the student will:

- Be able to disassemble a PC by removing all internal components.
- Be able to identify all major components of a PC such as the power supply, motherboard, CPU, memory, disk drives, video card, etc.
- Be able to assemble a PC by installing the major components necessary to a working PC, and verify that the components are working correctly.
- Understand and use safety precautions and procedures for working with computer hardware.
- Have an understanding of the way a PC works in terms of the flow of information between the various components during the execution of an application.
- Be aware of the existence and purpose of the operating system, device drivers, application programs, and user data.
- Be able to install and configure the Windows XP operating system.
- Be able to locate and install necessary device drivers.
- Know how to configure the networking information necessary to connect a PC to the Internet.

- Be aware of the need to periodically perform security updates on the operating system and some applications.
- Be aware of the need for virus protection software, and be able to install and configure it.
- Be aware of the existence of spyware, and be able to locate and install a utility program to remove it.
- Know how to backup and restore user data.
- Be exposed to the value of keeping a journal or notebook when working on hardware/software systems.
- Experience the rewards of being an effective team member.

Course Materials Provided:

- IT Essentials I: PC Hardware & Software v3.0
Cisco Networking Academy Program
provided by Hewlett-Packard Development Company
- computer for each student to strip down and rebuild
- tools, ESD strap, and multimeter

Tentative Schedule:

Week 1 – Module 1 – Information Technology Basics

- M 6/27
Orientation and welcome
- T 6/28
Syllabus & Module 1.1 – 1.4
- W 6/29
Pre-assessment exam (OCNL 133)
- R 6/30
Module 1.5 – 1.6, safety, team formation
- F 7/1
Module 1 Quiz, PC overview

Week 2 – Module 2 – How Computers Work

- M 7/4
Happy 4th of July!! Stay Safe!!
- T 7/5
Module 2.1 – 2.3, boot process, hardware components -
begin disassembly and inventory of PC systems & components
- W 7/6
Module 2.4 - 2.6, memory, display, and the bus
- R 7/7
Module 2.7 – 2.8, storage and networking components
Multimeter lab

F 7/8

Module 2.9 – 2.10, system resources
Module 2 Quiz, continue PC inventory

Week 3 – Module 3 – Assembling a Computer

M 7/11

Module 3.1 – 3.3, overview, safety, inventory, case
PC assignment

T 7/12

Module 3.4 – 3.5, preparing & installing the motherboard

W 7/13

Module 3.6 – 3.8, installing the peripheral devices & video card

R 7/14

Module 3.9, BIOS & booting

F 7/15

Module 3 Quiz

Week 4 – Module 4 – Operating System Fundamentals

Module 6 – Windows NT/2000 Operating Systems

Module 7 – Windows XP Operating System

M 7/18

Module 4.1 – 4.2, operating systems & DOS

T 7/19

Module 4.3, memory
Module 4 Quiz

W 7/20

Module 6.1 – 6.2, Windows 9x contrasts & system tools
Module 6 Quiz

R 7/21

Module 7.1 – 7.3, Windows XP versions & installation

F 7/22

Module 7.4 – 7.5, Windows XP contrasts
Module 7 Quiz

Week 5 – Module 10 – Networking Fundamentals

M 7/25

Module 10.1 – 10.3, networking, installing and configuring a NIC

T 7/26

Application installation, security updates, virus protection, spyware

W 7/27

Prepare posters, lab cleanup
Post-assessment exam

R 7/28

No class – rockets

F 7/29

Poster presentations & Goodbyes!