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!