Las Positas College
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Course Outline for CNT 51

COMPTIA'S A+ CERTIFICATION COMPUTER TECHNICIAN

Effective: Spring 2016

I. CATALOG DESCRIPTION:
CNT 51 — COMPTIA'S A+ CERTIFICATION COMPUTER TECHNICIAN — 4.00 units

This course provides an introduction to the computer hardware and software skills needed to help meet the industry demand for entry-level PC Technicians. This course covers PC hardware, software, security, networking, laptops, printers, operational procedures, operating systems, security, troubleshooting, and mobile devices. The students will study the topics needed to become certified PC technicians. Preparation for the CompTIA A+ certification, which verifies knowledge equivalent to that of an entry-level ICT (Information and Communications Technology) technician with about 12 months of hands-on experience. The responsibilities of an ICT professional will be introduced

3.00 Units Lecture 1.00 Units Lab

Strongly Recommended
CNT 50 - Introduction to Desktop Operating Systems

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	54.00
Lab Hours:	54.00
Total Hours:	108.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering this course, it is strongly recommended that the student should be able to:

A. CNT50

IV. MEASURABLE OBJECTIVES:

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

A. build a personal computer, according to customer requirements;
B. install, configure, and maintain devices, and PCs for end users;
C. install and configure networking adapters, including the connectivity software;
D. install, update, and configure the Windows OS;
E. troubleshoot and document common hardware problems;
F. deploy desktop imaging, and install a virtual machine on a computer, using different hypervisors;
G. identiy and explain system boards components, types and features;
H. install and troubleshoot power supplies;
I. match specific CPUs to systems boards and install proper cooling devices;
J. select the correct memory types for specific expansion slots;
K. choose and install display devices according to customer specifications;
L. install and configure peripherals, input devices and printers;
M. determine the troubleshooting methods and tools for printers;
N. compare and contrast the different Windows Operating Systems and their features;
O. secure a computer using anti-malware software and user access rights;
P. harden a wireless access point security and train end user in basic security features; and
Q. practice the appropriate communication skills and professionalism needed to provide effective customer support.

V. CONTENT:
A. Safety of Staff and Equipment
B. PC hardware, Internal Devices
C. Peripheral Devices and Printers
D. Electricity and Power Supplies
E. System Boards, CPU and Memory
F. Operational Procedures

G. Laptops
H. Operating Systems
I. Data Storage Devices
J. Windows System Management
K. File Management
L. Security and Monitoring
M. Mobile devices and Wireless Access Points
N. Networking and Computer Hardening
O. Troubleshooting
P. Providing Effective Customer Support
    1. Communication Skills
    2. Professionalism in the Workplace
    3. Developing a Service Level Agreement (SLA)

VI. METHODS OF INSTRUCTION:
A. **Discussion** -
B. **Lecture** -
C. A+ Exam practice questions
D. **Lab** - Laboratory assignments
E. Internet assignments

VII. TYPICAL ASSIGNMENTS:
A. Ensuring Customer Satisfaction:
    1. Determine what you would include in your SLA (Service Level Agreement) for a small workgroup that needs support for basic hardware and commercial software. Compare your SLA with those of the other group. Create an SLA for a department that uses specialized hardware and custom applications, in addition to needing support for basic hardware and commercial software
B. Internet:
    1. Research the latest PC CPUs and compare them to the CPUs inside your home computers
C. Troubleshooting and Repair Methodologies:
    1. What are the first questions you ask a customer?
    2. What are some of the first things you check about a failed system, and why?
    3. At what point is a repair job finished and what are the last technical checks you do before you leave the premises?

VIII. EVALUATION:
A. **Methods**

    1. Other:
        a. Quizzes and a final examination
        b. Hands-on laboratory assignments
        c. Internet quizzes
        d. Group projects

B. **Frequency**

    1. Six to eight quizzes, laboratory
    2. One weekly hands-on assignment
    3. Six to eight Internet quizzes
    4. One to two group projects

IX. TYPICAL TEXTS:
1. Meyers, Michael *Mike Meyers' CompTIA A+ Guide to Managing and Troubleshooting PCs Lab Manual.* 4th ed., McGraw-Hill Osborne Media, 2012.
2. Andrews, Jean . *Andrews' A+ Guide to Managing & Maintaining Your PC.* 8th ed., Cengage Learning, 2014.
3. Schmidt, Cheryl. *Complete CompTIA A+ Guide to PCs.* 6th ed., Pearson, 2013.
4. Soper, Mark, David Prowse, and Scott Mueller. *CompTIA A+ 220-801 and 220-802 Cert Guide, Deluxe Edition.* 3rd ed., Preason, 2015.
5. TestOut.com LabSims Student Online Access TestOut PC Pro 2014 ed. Provo: TestOut.com, 2014.

X. OTHER MATERIALS REQUIRED OF STUDENTS:
A. Portable storage device; such as a flash drive or external USB drive