Course Information

Division: Business
Course Number: CMP 151
Title: Computer Systems I
Credits: 3
Developed by: James McBride
Lecture/Lab Ratio: 2 Lecture/2 Lab
Transfer Status:

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<th>ASU</th>
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<td>Elective Credit</td>
<td>CIS Departmental Elective</td>
<td>Non Transferable</td>
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Activity Course: No
CIP Code: 11.0100
Assessment Mode: TestOut Network Custom Exam (100 Questions/100 Points)
Semester Taught: Fall
GE Category: None
Separate Lab: No
Awareness Course: No
Intensive Writing Course: No

Prerequisites
None

Educational Value
This course will serve several target populations:
1. Computer program majors.
2. Those seeking A+ (CompTIA) certification.
3. Those seeking information regarding PCs to increase chances of success in Microsoft, CISCO or other related Certifications.
4. Individuals with an interest in gaining knowledge of troubleshooting and maintaining PCs.

Description
Designed to provide an understanding and experience with hardware and operating systems at the technical support level, exploring aspects of the PC, including: computing, PC technician troubleshooting skills and tools, hardware performance, PC system components, peripheral devices and drivers, storage options and standards, networking theory and components.
Supplies
TestOut LabSim. Online content obtained in class; requires additional fee in lieu of book. Access to a networked personal computer.

Competencies and Performance Standards
1. Demonstrate an understanding of computers, their basic components, and tools used in troubleshooting.
   Learning objectives
   What you will learn as you master the competency:
   a. Identify the fundamental components of personal computers.
   b. Install, configure, optimize and upgrade personal computer components.
   c. Identify tools, diagnostic procedures, and troubleshooting techniques for personal computer components.
   d. Perform preventative maintenance on personal computer components.

   Performance Standards
   Competence will be demonstrated:
   o in the completion of assignments from TestOut Lab Simulation Software
   o in the successful completion of unit quiz
   o in the successful completion of final exam
   Criteria - Performance will be satisfactory when:
   o learner identifies the fundamental principles of using personal computers
   o learner installs, configures, optimizes and upgrades personal computer components
   o learner identifies tools, diagnostic procedures, and troubleshooting techniques for personal computer components
   o learner performs preventative maintenance on personal computer components

2. Demonstrate an understanding of the job responsibilities of a PC technician.
   Learning objectives
   What you will learn as you master the competency:
   a. Identify safety protocols for working with PC components.
   b. Identify the important factors of providing professional technical support.
   c. Identify important PC maintenances factors for optimal PC hardware performance.
   d. Identify tools, diagnostic procedures, and troubleshooting techniques for personal computer components.

   Performance Standards
   Competence will be demonstrated:
   o in the completion of assignments from TestOut Lab Simulation Software
   o in the successful completion of final exam
   Criteria - Performance will be satisfactory when:
   o learner identifies the fundamental principles of PC safety procedures
   o learner identifies correct professional behaviors
   o learner identifies important PC maintenances factors for optimal PC hardware performance
   o learner identifies tools, diagnostic procedures and troubleshooting techniques
3. Demonstrate an understanding of the system components found in personal computers.

What you will learn as you master the competency:

a. Identify basic system components.
b. Identify variations in cases and form factors.
c. Identify variations in motherboard and system buses.
d. Identify variations in processors, memory, and BIOS.

Performance Standards

Competence will be demonstrated:

- in the completion of assignments from TestOut Lab Simulation Software
- in the successful completion of unit quiz
- in the successful completion of final exam

Criteria - Performance will be satisfactory when:

- learner identifies basic system components
- learner identifies variations in cases and form factors
- learner identifies variations in motherboard and system buses
- learner identifies variations in processors, memory and BIOS

4. Demonstrate an understanding of peripheral devices.

Learning objectives

What you will learn as you master the competency:

a. Identify the fundamental principles of using peripheral devices.
b. Identify basic concepts of installing, configuring, optimizing and upgrading peripheral devices.
c. Identify standard peripheral/PC connectors.

Performance Standards

Competence will be demonstrated:

- in the completion of assignments from TestOut Lab Simulation Software
- in the successful completion of unit quiz
- in the successful completion of final exam

Criteria - Performance will be satisfactory when:

- learner identifies the fundamental principles of using peripheral devices
- learner identifies basic concepts of installing, configuring, optimizing and upgrading peripheral devices
- learner identifies standard peripheral/PC connectors

5. Demonstrate an understanding of storage.

Learning objectives

What you will learn as you master the competency:

a. Identify the fundamental principles of storage.
b. Install, configure, optimize and upgrade storage.
c. Identify various storage methods and devices.
**Performance Standards**

*Competence will be demonstrated:*
- in the completion of assignments from TestOut Lab Simulation Software
- in the successful completion of units quiz
- in the successful completion of final exam

*Criteria - Performance will be satisfactory when:*
- learner identifies the common types of network cables, their characteristics and connectors
- learner identifies the fundamental principles of storage
- learner installs, configures, optimizes and upgrades storage
- learner identifies various storage methods and devices

6. Demonstrate an understanding of networks and their uses in society networking.

**Learning objectives**

*What you will learn as you master the competency:*
- Identify the fundamental principles of networking.
- Identify interconnecting network hardware.
- Identify network media.

**Performance Standards**

*Competence will be demonstrated:*
- in the completion of assignments from TestOut Lab Simulation Software
- in the successful completion of units quiz
- in the successful completion of final exam

*Criteria - Performance will be satisfactory when:*
- learner identifies the fundamental principles of networking
- learner identifies interconnecting network hardware
- learner identifies network media

**Types of Instruction**

Classroom presentation

On campus laboratory

**Grading Information**

**Grading Rationale**

Final 25%

Labs 75%
Grading Scale

A  90-100%
B  80-89%
C  70-79%
D  60-69%
F  0-59%