SYLLABUS

GENERAL INFORMATION
Course Title: IT Essentials Lab
Code: LCNA 1001
Contact Hours: 56
Academic Term: August 12, 2021 to September 15, 2021
Professor: Joel Vargas Ramos
Email: jvargas@passwordpr.com

COURSE DESCRIPTION

This laboratory is aimed at developing skills and abilities necessary to assemble components based on customer requirements, install, configure and maintain devices, PCs and software for end users, understand the basic principles of network systems and security / forensic analysis, diagnose, solve and adequately and securely document common hardware and software problems while applying problem solving skills. Successful candidates will also serve the appropriate client; They will understand the basic fundamentals of virtualization, image processing and implementation. This course is aimed at obtaining the CompTIA A + certification.

GENERAL OBJECTIVES

Configure, differentiate, install, identify, explain and compare through physical and virtual laboratories the objectives corresponding to CompTIA certification exam A + 220-901 in hardware, network systems, laptops, printers and operations procedures respectively. At the end of the course the student will obtain the necessary practice to master the skills established by the computer industry.

SPECIFIC OBJECTIVES
Lesson 1: Installing and Configuring PC Components
- Use appropriate Safety Procedures
- PC Components
- Common Connections Interface
- Install Peripheral Devices
- Troubleshooting Methodology

Lesson 2: Installing, Configuring and Troubleshooting Display and Multimedia Devices
- Install and Configure Display Devices
- Troubleshoot Display Devices
- Install and Configure Multimedia Devices

Lesson 3: Installing, Configuring and Troubleshooting Storage Devices
- Install System Memory
- Install and Configure Mass Storages Devices
- Install and Configure Removable Storage
- Configure RAID
- Troubleshooting Storage Devices

Lesson 4: Installing, Configuring and Troubleshooting Internal System Components
- Install and Upgrade CPUS
- Configure and Update BIOS/UEFI
- Install Power Supplies
- Troubleshooting Internal System Components
- Configure a Custom PC

Lesson 5: Network Infrastructure Concepts
- Wired Networks
- Network Hardware Devices
- Wireless Networks
- Internet Connection Types
- Network Configuration Concepts
- Network Services

Lesson 6: Configuring and Troubleshooting Networks
- Configure Network Connection Settings
- Install and Configure SOHO Networks
- Configure SOHO Network Security
- Configure Remote Access
- Troubleshoot Network Connections
- Install and Configure IOT Devices

Days	Modules	Works
Class #1 **Module 1**	**Lesson 1: Installing and Configuring PC Components** • Use appropriate Safety Procedures • PC Components • Common Connections Interface	• Lab 1- Troubleshoot Hardware Problems
Class #2 **Module 1**	• Install Peripheral Devices • Troubleshooting Methodology	
Class #3 **Module 2**	**Lesson 2: Installing, Configuring and Troubleshooting Display and Multimedia Devices** • Install and Configure Display Devices • Troubleshoot Display Devices • Install and Configure Multimedia Devices	• Lab 2- Research Laptop Specification
Class #4 **Module 3**	**Lesson 3: Installing, Configuring and Troubleshooting Storage Devices** • Install System Memory • Install and Configure Mass Storages Devices	• Assessment 1- Computer Hardware Components
Class #5	• Install and Configure	• Lab 3- Gather

Module 3	Removable Storage • Configure RAID • Troubleshooting Storage Devices	Information from the Customer
Class #6 **Module 4**	**Lesson 4: Installing, Configuring and Troubleshooting Internal System Components** • Install and Upgrade CPUS • Configure and Update BIOS/UEFI • Install Power Supplies	• Lab 4- Research a Hardware Upgrade
Class #7 **Module 4**	• Troubleshooting Internal System Components • Configure a Custom PC	
Class #8 **Module 5**	**Lesson 5: Network Infrastructure Concepts** • Wired Networks • Network Hardware Devices • Wireless Networks	• Assessment 2- Mobile Devices and Printers
Clase #9 **Module 5**	• Internet Connection Types • Network Configuration Concepts • Network Services	• Lab 5- File System Commands
Clase #10 **Module 6**	**Lesson 6: Configuring and Troubleshooting Networks** • Configure Network Connection Settings • Install and Configure SOHO Networks • Configure SOHO Network Security	
Clase #11 **Module 6**	• Configure Remote Access • Troubleshoot Network Connections • Install and Configure IOT	• Final

Laboratories:

- Lab 1- Troubleshoot Hardware Problems

- Lab 2- Research Laptop Specification

- Lab 3- Gather Information from the Customer

- Lab 4- Research a Hardware Upgrade

- Lab 5- File System Commands

Assessments:

- Assessment 1- Computer Hardware Components

- Assessment 2- Mobile Devices and Printers

EVALUATION CRITERIA

CRITERIA	Grade total
Lab 1-3	100
Lab 4-5	100
Assessments 1-2	100
Assistance	100
Total	400

*4 Points less for each absence.

*Assignments are always due in class on the day designated. You are responsible for any work lost due to technical problems, etc. Late papers will lose a letter grade for each day that they are late. Any exceptions must be properly documented and discussed in advance for an extension to be arranged.

EDUCATIONAL RESOURCES

- Pengelly, J. (2020). The Official CompTIA A + Core 1 Student Guide (Exam 220-1001). Ebook CompTIA. Downers Grove, Illinois

- Neo LMS (2021). CompTIA IT Essentials. *passwordtech.edu20*.

  https://passwordtech.edu20.org/

NOTES

- **Reasonable Accommodation:** Any student who requires reasonable accommodation must request them at the beginning of the course or as soon acquire the required knowledge that through the Professor in charge and be notifying the Academic Director.

- **Honesty, fraud, plagiarism:** Dishonesty, fraud, plagiarism and any other inappropriate behavior about the student's academic performance, constitute violations of the catalog of the institution, its Rules of Conduct and Duties of Student. Major infractions, as provided in the catalog may result in the suspension of the institution for a defined time or permanent expulsion as stipulated in the Rules of Conduct and Duties of Student.