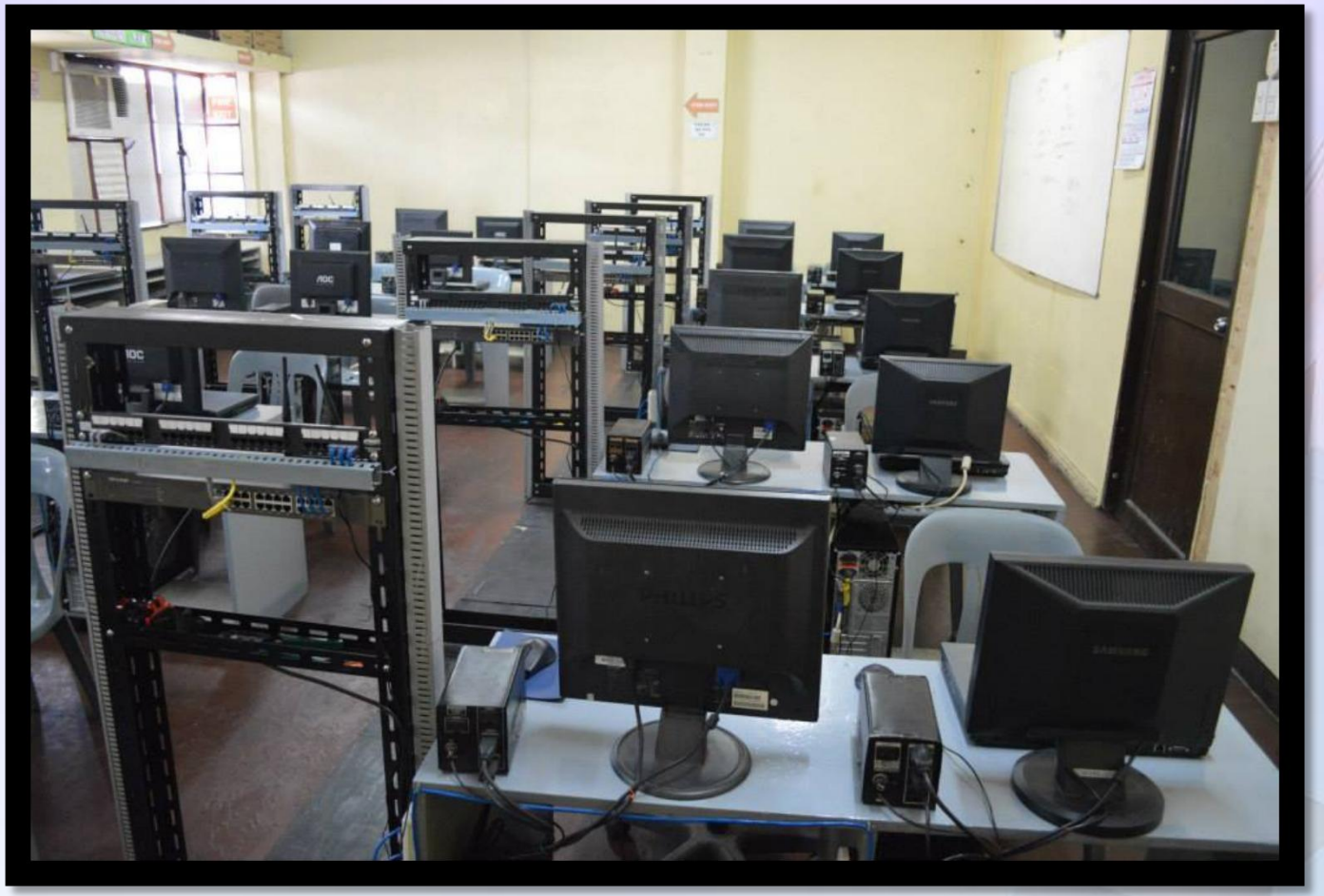


Computer Systems Servicing NC II

- ***Electronic Sector***

Core Competencies

- COC1: Install & Configure Computer Systems
- COC2: Set-up Computer Networks
- COC3: Set-up Computer Servers
- COC4: Maintain & Repair Computer Systems & Networks

COC1: Install & Configure Computer Systems

- ***Specific Instructions:***
  - Disassembly and Assembly of Computer Systems
    - Disassemble Computer System
      - Inventory of Computer Components
    - Assemble Computer System
      - Bios Setup
  - Create Bootable Flash disk drive
    - Using Rufus application (win7.iso)
  - Install Computer Software
    - Windows 7 Operating System
    - Computer Drivers

COC1: Install & Configure Computer Systems

- ***Specific Instructions:***
  - Install Computer Applications
    - MS Office
    - Anti-Virus
  - Testing Computer
    - Device Manager
    - Applications
    - Disk Management

LESSON 1: CSS in the Electronics Industry

- As many of today's basic functions are being simplified by technology, computers have been on the forefront in developing innovations through its many functions.

- Many of the things that we thought were impossible before are now being achieved by computers nowadays.

- In this digital economy, having the knowledge and skills in computer servicing is the start and most fundamental of all.

TOPIC 1: Why is CSS relevant?

- In today's industry, almost every establishment needs the assistance of technology.
- Even establishments and businesses are now gearing towards the use of **information technology** to promote their services.
- The demand for people who offer computer servicing and repair **continues to increase** as society rapidly changes.

TOPIC 2: What jobs can I land on?

- Since society is now becoming more technology-driven and technology-dependent, it is no wonder that more and more establishments are in need of the expertise of computer service providers.
- The Computer Systems Servicing National Certificate (NC II) Qualification trains its learners with competencies that will allow them to diagnose and troubleshoot PC systems and software issues, as well as restoring its parts to return the device to its normal function.

A person who has achieved the Computer Systems Servicing NC II Qualification is competent to be a:

TOPIC 3: What are my job functions in the future?

Computer Assembler

Responsible for producing components and assembling computer parts.

Computer Service Technician

This job may include setting up hardware and configuring software and drivers. Other tasks may be maintaining and repairing technological equipment as well as computer peripheral devices.

Network Technician

An information technology professional responsible in building and troubleshooting computer networks.

Technical Support Staff

This position can be very in demand in various organizations and/or business establishments. A technical support staff may be in charge maintenance of computer systems, installation of devices and software, and configuration.

Computer Maintenance Technician

Has a more diverse set of skills, but is responsible for maintaining and providing technical support to overall daily computer performance.

Computer Repairman

This position may be common to computer related businesses that provide repair and maintenance services. This job requires extensive knowledge on diagnosing and repairing different devices that will be brought to them.

TOPIC 4: What knowledge and skills do I need?

Knowledge

- ☑ Hardware, including old & up-to-date systems, and essential software
- ☑ Electrical safety and hazards
- ☑ Operating systems

Skills

- ☑ Customer service and communication skills
- ☑ Systematic approach to solving problems
- ☑ Ability to meet deadlines
- ☑ Ability to squat, bend, and reach to repair equipment
- ☑ Able to lift at least 50 pounds of computer components
- ☑ Able to stand for long periods of time

LESSON 2: OHS Policies and Procedures

- ***Occupational Health and Safety*** or *OHS* is concerned with health, safety, and welfare issues in the workplace. Policies and procedures are important in discussing OHS because it aims to make the workplace **safer and better** for workers and stakeholders.
- It is concerned with many factors such as removal of hazards and reducing accidents in the workplace.
- As a future computer technician, it is your **responsibility** to know these standard protocols especially since you will be assembling and repairing expensive and sensitive equipment that need care and proper handling.

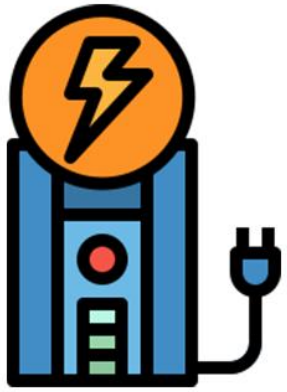
TOPIC 1: Occupational Health and Safety

Occupational Health and Safety (OHS) is a set of policies and procedures that is followed in a workplace in order to ***prevent accidents, illnesses, and injuries.***
It involves knowing the risks that can be encountered in a workplace and figuring out how it can be prevented.

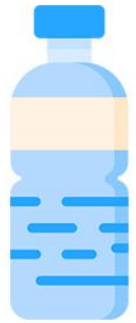
Following OHS policies and procedures is important when dealing with electronics since it would protect not only the personnel dealing with the components, but also the unit itself.
Three steps may be done to facilitate OHS procedures in a CSS work space:
1.Hazard identification
2.Risk assessment
3.Risk control

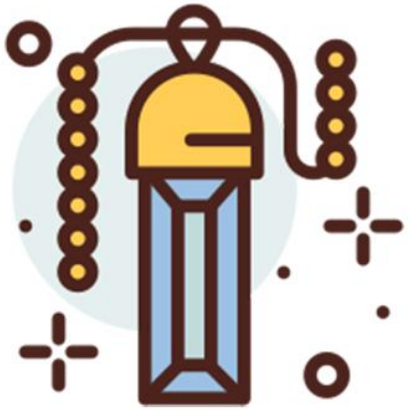
In addition to that, here are some additional OHS Procedures that must be observed in computer servicing:

Do not remove computer parts while it is still plugged on its power source.

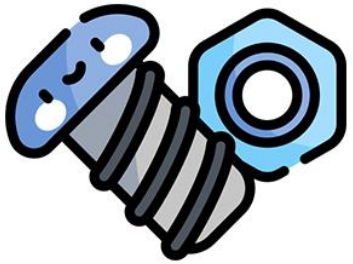


Avoid bringing liquids inside the workplace.





Remove all jewelry and other accessories while working.

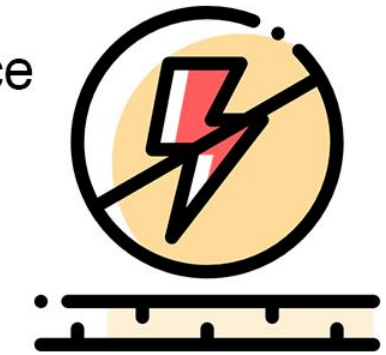


Avoid overtightening screws.

In addition to that, here are some additional OHS Procedures that must be observed in computer servicing:

Use shoes with non-conductive rubber soles to reduce risks of being shocked.

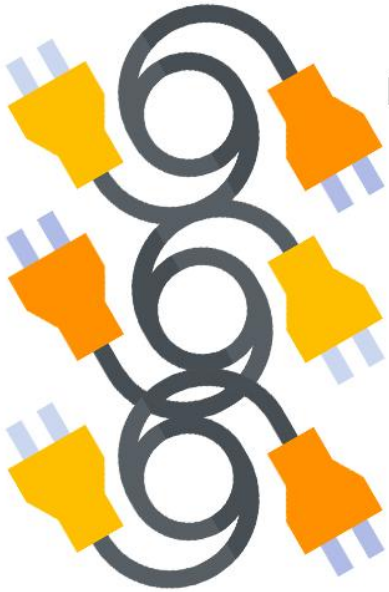
Wear an anti-static device to prevent electrostatic discharge.



TOPIC 2: Hazard Identification

Hazards are anything that can hurt a person. Example of hazards that can be encountered when conducting computer systems servicing are:

- Tangled electrical cords
- Unsecured or unevenly stacked boxes
- Noise
- Hazard identification involves observing the workplace's surroundings to recognize potential risks.



1 PHYSICAL HAZARDS

Physical hazards can be further classified as an occupational or an environmental hazard.

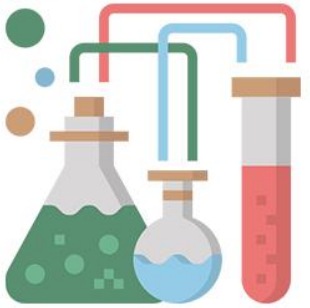
A common type of physical hazard are cables tangled across the floor. It can cause someone to trip and fall. These can be addressed by making sure that the workspace is in a clean and proper condition.

MECHANICAL HAZARDS 2

Mechanical hazards can either be a result from manual use of tools or powered equipment.

An example of this is getting entangled with tools and equipment used in the workplace that may lead to injuries.

3 CHEMICAL HAZARDS



This is caused by exposure to chemicals in the workplace. Chemical hazards should be prevented as it can cause long-term harmful health issues.

In electronics, different chemicals will be used such as cleaning chemicals, dust removers, cleaning solvents, oil, and others that is why it is important to be careful.

ELECTRIC SHOCK HAZARDS 4

An electrical hazard is a dangerous condition that can be caused by direct electrical contact from an active equipment or electrical conductor.

TOPIC 3: Risk Assessment

Assessing the risk is evaluating how a hazard would harm a person.

While hazards are what can harm the person, risk is the possibility of the hazard harming someone.

Two questions can be asked to assess a risk:

1	**How likely will the hazard harm me or someone else?**
2	**How damaging will the risk be?**

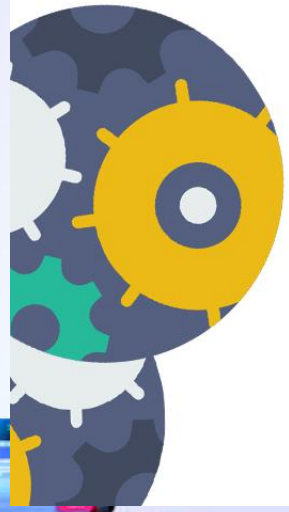
TOPIC 4: Risk Control

- *Once the hazard has been identified and its risks have been evaluated, it is time to address these issues:*
- Ask your supervisor for instruction and training before using or repairing an equipment.
- Do not carry or move heavy objects by yourself.

PHYSICAL HAZARDS

One can use gaffers tape to manage and organize cables that need to run across the floor for a long period of time. Gaffers tape is a strong adhesive that can stick to the floor in order to minimize disarray of computer cables.

Besides this, cable ties, cable wraps, and cable raceways can be used for long term cable routing.

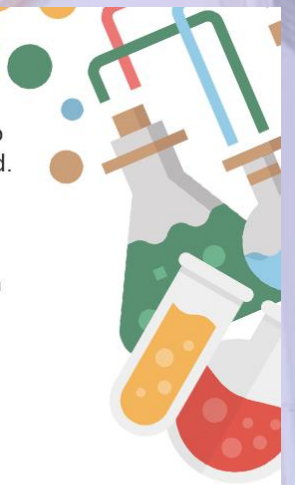


MECHANICAL HAZARDS

In general, mechanical hazards can be prevented by ensuring that all equipment are well maintained. In addition to that, a person must be well trained or supervised before using an unfamiliar equipment.

Use equipment in the way the manufacturer had initially intended.

CHEMICAL HAZARDS



In order to prevent chemical hazards, make sure to properly check labels of chemicals that will be used.

Be on the lookout for flammable substances.

Make sure to follow safety procedures indicated on product labels or packaging.

ELECTRIC SHOCK HAZARDS

To minimize risks, make sure to check for faulty wiring before use.

Do not disconnect power cords by tugging on the wire. Instead, hold the plug end when disconnecting.

LESSON 3: Applying Quality Standards

Introduction

- Standards are **sets of rules that outline** specification of dimensions, design of operation, materials, and performance. Standards provide basis for good quality and protocol.
- When it comes to computer systems servicing, **standards are important** as it serves as comparison for computer performance. Maintaining quality is important to manage customer satisfaction where the revenue and profits will depend upon.

TOPIC 1: Assessing Quality

- In computer systems servicing, you will be handling a lot of equipment. You will be purchasing them, assembling and disassembling, repairing, or even maintaining them!
- That is why it is important to assess the quality of the materials you will be receiving especially when you are purchasing from a supplier.
- Here are some standard protocols in checking the materials and goods you will be receiving in work.

Make sure that:

☑ The packing slip is received!

☑ The purchase order matches the specific device and quantity!

☑ The device is in good condition!

☑ The terms for installation and set-up of the equipment are met!

☑ There is documentation!

TOPIC 2: Documentation

Here are some **samples** of log reports and documentation assessed by a quality checker. Take note however, that not all organizations will make use of the same form.

Example of Log Report *(to be completed by the Quality checker)*

Date Received	O.R. #	Item Name	Quantity	Signature	Quality Checker
1/21/2021	912875912	Hard Drive 500 GB	20	MeL/	GOOD

Quality Checker: Miguel L. Date: 1/21/2021

Item Name	Total no. in Good Condition	Total no. of Errors	Comments
Seagate 1 TB HDD	20	0	All Tested - Ok!

TOPIC 3: Inventory Form

- **Here is an example of an inventory form.**

- You will be encountering this after disassembling computers. You will be listing down the PC specifications in this form.
- You can write the **general description** of what the item is under Items while you can write the **specifications** or necessary description below Description/Specification. Anything else that you think are **important notes** should be written on the Remarks column.

Items	Description/Specification	Quantity	Remarks
Computer Equipment			
LED Monitor	22" HP LCD Monitor	1	
System Unit Components			
Central Processing Unit	AMD Ryzen 5 2600 3.6Ghz	1	
RAM	HyperX Fury 8GB 3200 MHz	2	
Tools			
Screwdriver	Philips Screwdriver 30-in-1	1