CMP3203 Computer Systems Maintenance

Period per Week			Contact Hour per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment Mark	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
30	60	00	60	100	60	40	4

Rationale

This course covers both hardware and software, providing students with the skills and knowledge to build, repair and upgrade computer systems. It also provides a useful introduction to networks and network security.

Objectives

By covering the course in Computer Systems Maintenance, the student will be able to effective carry out Personal Computer hardware and software installation, configuration and upgrading, diagnosis and troubleshooting, preventative maintenance, safety and environmental issues, and basic networking.

Subject Content

1. ***Basic Concepts of a PC***
   - Identify the main and auxiliary components of a PC
   - Compare a portable PC with a desktop PC
   - Identify the factors affecting the performance of a CPU
   - List the different types of microprocessors motherboards and their components
   - List the types of ports I/O buses and power connectors
   - Identify different types of RAM and RAscsM packages
   - List various system resources
   - Describe the hard drive geometry and commonly used data encoding techniques
   - Identify different types of hard drive interfaces
   - Identify different SCSI standards
   - Identify the requirements for a SCSI device to function
   - List different types of video cards and monitor components
   - Identify different modes of communication for a modem
   - Describe the factors affecting the functioning of a modem
   - Identify the different types of printers
   - Identify the working of a laser printer
2. ***Installing and Configuring a PC***
   - Assembling a Computer (Installing Components of a PC and Running CMOS & Partitioning Hard Drive)
   - Configuring a PC (Installing the Operating System, Printers & Modems)
   - Networking a PC (Understanding Network Basics and Implementing Networks)
   - Configuring a Network (Using Network Protocols & Utilities and Installing Network Components)
3. ***Introduction to Operating Systems***
   - Introduction to Operating Systems (Operating Systems Overview and Functions of Operating Systems)
   - Information and Memory Management
   - Process Management (Process Scheduling and Inter-process Communication)
   - Processor Management and Security (Parallel and Distributed Processing, and Security and Protection Issues)
   - Overview of Different Operating Systems (Types of Operating Systems, Comparing DOS and Windows Operating System, Comparing Linux and Unix, Comparing Windows NT and Windows 2000)
4. ***PC Configuration and Troubleshooting***
   - Configuring a PC (Installing OS and Tuning the System, and Installing External Drivers)

- Troubleshooting PC Problems (Troubleshooting Methodology, and Troubleshooting the Motherboard and File System)
- Troubleshooting Other Devices (Troubleshooting Display & Sound Card, Troubleshooting Input Devices, and Troubleshooting Storage Media Printer & Modem

5. Troubleshooting PC Problems

- Preventative Maintenance of System (System Maintenance, Input Devices and Display, Storage Media and Power Supply, and Peripherals and Power Supply)
- Preventative Maintenance of Data (Disk Fragmentation and DriveSpace, and ScanDisk and Disk Cleanup)
- Troubleshooting Techniques (Troubleshooting System Unit, and Storage Media and Printer Troubleshooting)

6. Troubleshooting PC Related Problems

- Troubleshooting Hardware and Software Problems (Troubleshooting using Diagnostic Software, Troubleshooting File System, and Troubleshooting Windows Problems)
- Troubleshooting System Cards and Input Devices (Troubleshooting Display and Sound Cards, and Troubleshooting Input Devices)
- Troubleshooting Other Devices (Troubleshooting Storage Media, and Troubleshooting Printers and Modems

Recommended and Reference Book

[1] Phillip A. Laplante, 1915. *Easy PC Maintenance and Repair*. Windcrest; 2 Edition. ISBN-10: 0070364338. ISBN-13: 978-0070364332.