MAKERERE UNIVERSITY BUSINESS SCHOOL
FACULTY OF COMPUTING AND INFORMATICS
Department of Applied Computing & Information Technology
Academic Year 2024/2025 - Semester I
COURSE OUTLINE

Programs	Bachelor of Business Computing (BBC I)
Year of study	One
Course name	Information Technology Essentials
Course code	BUC1112
Credit units	5
Facilitators	**Main Campus**
	Dr. Abdul Male Ssentumbwe, Mr. Samuel Eelu, Mr. Benedict Ogot, Mr. John Magala
	MUBS Jinja Campus
	Ms. Nakalyango Justine, Ms. Katono Annet, Mr. Jerald Twinamatsiko, Mr. Kikwanga Charles

Introduction

The course will introduce students to the major topics of Information Systems. The materials cover major concepts that drive computing and information technology today, like PC assembling, configuration and troubleshooting and PC Networks. The course is broken down into sections that cover a survey of above mentioned areas of information systems.

Course Objectives

The course intends to;
- Explain the hardware and software components of computer systems
- Demonstrate trouble shooting of computer failures
- Demonstrate procedures for disassembling and assembling PCs components
- Demonstrate OS installation, configuration and management of user groups

Learning Outcomes

At the end of the course students should be able to:
- Identify hardware and software functionalities
- Demonstrate the ability to configure and troubleshoot PCs
- Assemble, dissemble, and upgrade PC components
- Install OS, Configure and manage users, groups and shared resources

Detailed Course Content

Topic	Lesson Details	Hours

1) Introduction to computer fundamentals
 Overview of course unit
	• Analog and digital
	 • Binary and Decimal number system
	 • ASCII
	 • Program Code
	 • User data
	
	 Computers and Systems
	 • Types of computer systems
	 • Components of the Computer System
	 • The Computer System (PC)
	     a) Hardware Component
	     b) Software Component
	     c) Communication Component
		8

2) PC Components, features and system design	• Motherboards; Form factor (AT, ATX/BTX, micro ATX/NLX)
	 • Input/Output devices
	 Characteristics of typical I/O devices
	 • Ports and cables, (USB, parallel, serial, IEEE..
	 • Buses; System bus, I/O busses (ISA, PCI, USB)
	 • Microprocessors; (AMD, Intel) CPU technologies
	 • Memory
	     Types-DRAM, SRAM, SDRAM
	     Solid State Memory Memory capacity
	 • Storage Devices
	     Storage types, configuration & installation of Hard disk, floppy & CD ROM)
	 • Display devices
	 • Projectors, CRT, LCD, LED
	 • Network communication devices
	 • Identifying Personal Computer Components
	 • Install and configure personal computer components
	 • Assembling & Disassembling of computer systems
		8

3) General PC Maintenance	Overview • Power supply and PC protection • Safety guidelines and procedures Preventive maintenance	8

	• Maintaining Display Devices • Maintaining Disk drives • Cleaning inside the case Diagnostic hardware and software • Troubleshooting Computer Hardware (Memory, key board, mouse, video problems…) • Troubleshooting POST • Troubleshooting/repairing tools • Upgrading and optimizing hardware *Lab2:* Cleaning & Preventive Maintenance	
4) Operating systems Basics	• PC Operating systems (DOS, UNIX, Windows NT, Linux, etc) • Running programs • Types of user interface (CLI, GUI) • OS functions • Installation & configuration of operating systems, service packs and drivers • Installation of Application software (Ms Office, Antivirus..) • File systems and data recovery • Windows booting process • Troubleshooting operating systems • Troubleshooting techniques and tools • Installation & upgrading of operating systems • Post-setup configuration • Configuring the Windows Registry • Running CMOS setup • Locating & viewing boot files	8
5) Using Command Prompt	• Command Prompt and Text editors • Navigating Directories and File Management	8
6) BIOS, CMOS and System Resources	• BIOS and CMOS • BIOS/CMOS Setup programs • System Resources	7
7) Computer Security	• Security Fundamentals • Windows Security Overview • Setting Account & Password Policies • Internet Security • Data security • Malware • Anti-Virus Software	7

8) Networking Essentials	• Essential components of a network • Network design, topologies and cabling • Introduction to LAN, MAN, WAN • Connectivity devices • Installation & Configuration of network devices, protocols • Implementing a peer to peer network • Network maintenance and troubleshooting • Making of network cables (crossed, straight …)	8
9) Printers and Scanners	• Types of printers • Printer components • Installation, configuration & sharing of printers & scanners • Maintenance & Troubleshooting • Installing & configuring a printer	7
10) Portable computers	• Types of portable computers • System components • Maintenance and troubleshooting • Maintenance of Laptops	6
Total Hours	**75 Hours**	

Delivery Methods:
- In-House Face to Face and Online Lectures
- Group & Class Discussions
- Practical demonstrations

Note: All class materials and examples will be delivered via Makerere University Business School eLearning Platform (Mubsep) accessible at https://mubsep.mubs.ac.ug

Assessment Methods

Course Works   **30%**

   a) Coursework Tests (Test1 => *Sit-in* and Test2 => *Online*)

   b) Group & Class discussions

   c) Practical Exercises and Assignments Sessions

Final Exam (Theory and Practical => *Online*)   **70%**   **(from Nov 2024)**

Total Marks (Coursework and Final exam)   **100%**

References

1) All-in-One, CompTIA A+ Certification Exam Guide, McGraw-Hill Education 11th Ed. by Michael Meyers & Scott Jernigan, **(2023)**
2) The Architecture of Computer Hardware, Systems Software, and Networking: An IT Approach, John Wiley & Sons, Inc., 6th Ed. by Irv Englander **(2021)**
3) Exploring Computer Hardware - 2022 Edition: The Illustrated Guide to Understanding Computer Hardware, Components, Peripherals & Networks (Exploring Tech) by Kevin Wilson **(2022)**
4) Essential Computer Hardware, The Illustrated Guide to understanding computer hardware 2nd Edition by Kevin Wilson **(2019)**
5) Information Technology Essentials: An introduction to IT, by Eric Frick, **(2019)**
6) Management Information Systems, Managing the Digital Firm, 15th Ed. by Kenneth C. Laudon • Jane P. Laudon **(2018)**
7) Computer Organization and Design: The Hardware/Software Interface: by David A Patterson and John L. Hennessy **(2018)**
8) Internet sources from Cisco Network Academy and CompTIA