EMT1102 Information and Communications Technology

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 draws upon evolution of Information Communication Technologies as a precursor to applications of computers in day-to-day life. This is critical for any student going into the field of computer engineering.

Objectives

- To provide an overview of the evolution of the computer
- To appreciate the societal importance and the trend towards the convergence of computing and communication technology
- To introduce students to components of computer hardware and software
- To expose the student to basic computer applications

Course Content

1. Introduction and Overview

- Definition of Information and Communication Technology

- History and Evolution of Computing and Information Communication Technology
- The changing role of Information and Communication Technology in society
- Current domains of application of Information Communication Technology: Mobile Communication, Broadcasting, Internet, Enterprise applications, Office automation, Specialised Applications (Engineering, Entertainment, Simulation etc.)

2. ***The Computer***
   - Definition of a computer, Types of computers, Elements of Computer Information Systems (CIS)
   - Introduction to components of the computer: the user, hardware and the software
3. ***Personal Computer Hardware***
   - Motherboard, Child-boards, and Circuitry
   - Central Processing Unit: Control Unit, Registers and the Arithmetic Logic Unit
   - Storage: Memory and Auxiliary Storage
   - Buses: Types, USB and its advantages
   - Chassis
   - Peripherals: Input and Output devices
   - Expansion cards
   - Power Supply and the Un-interruptible Power Supply (UPS)
   - Connectors
4. ***Firmware***
   - Definition
   - Types of firmware: BIOS and others
5. ***Software***
   - Definition
   - Evolution
   - System software(operating systems, device drivers, utilities and file management)
   - Application software (definition and categorization)
   - Software development tools
   - Licensing (Proprietary, Shareware, freeware, General Public License (GPL))
6. ***Office Automation***
   - Definitions
   - Benefits of office automation
   - Overview of office automation tools (Personal Information Management, Office Suites)
7. ***Word Processing***
   - Definition and Evolution
   - Types of Word Processors
   - Features of a word processor
   - Word processing exercise
8. ***Spreadsheets***
   - Definition and Evolution
   - Limitations of spreadsheets
   - Features of a spreadsheet

- Types of spreadsheet applications
- Spreadsheet exercises

9. Presentations

- Definition
- Preparation
- Features of presentation packages
- Presentation exercise

10. Email and Browsing the Internet

- Definition of the Internet
- Uses of the Internet
- Netiquette
- Internet Browsers
- Search engines and Web directories
- Email (Definition, Composing, Sending, Archiving, etc.)
- Email clients
- Information Literacy and lifelong learning (Definition and Implications of Internet Resources)
- Makerere Information Communication Technology Services

Learning Outcomes

On completion of this course the student should be able to:

- Discuss the evolution of the computing and information communication technology
- Identify the types of computers
- Identify the hardware components of the computer
- Execute basic office automation tasks including word processing, working with spreadsheets and preparing computer-aided presentations
- Browse the internet and use email

Recommended and Reference Books

Due to the volatile nature of the pertinent content, the student should be guided by the substantive instructor to access the reference materials.