EMT1204 Information Communication Technology

Hours per semester				Weighted total mark	Weighted exam mark	Weighted continuous assessment mark	Credit unit
LH	PH	TH	CH				CU
30	60	90	60	100	60	40	4

Course Description

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. It focuses on Basic information about computers and auxiliary components as well computer application in society today

Course 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

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

Course content

1. Introduction and Overview 4 Hours

- 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 4 Hours

- 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 6 hours

- 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 2 hours

- Definition
- Types of firmware: BIOS and others

5. Software 6 hours

- 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 2 hours

- Definitions
- Benefits of office automation
- Overview of office automation tools (Personal Information Management, Office Suites)

7. Word Processing 2 hours

- Definition and Evolution
- Types of Word Processors
- Features of a word processor
- Word processing exercise

8. Spreadsheets 2 hours

- Definition and Evolution
- Limitations of spreadsheets
- Features of a spreadsheet
- Types of spreadsheet applications
- Spreadsheet exercises

9. Presentations 2 hours

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

10. Email and Browsing the Internet 2 hours

- 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 **Mode of Delivery**

The course will be taught by using lectures, tutorials, assignments and practical thermodynamics laboratory sessions.

Mode of Assessment

This shall be by practicals, assignments, tests and examination. The relative contribution to the final grade will be as shown below:

Assessment Contribution

Tests / Assignments/ Practicals 40% Final Examinations 60% Total 100% **Reference Materials**

Machelt Garrels (2007)Introduction to Linux, A hands-on Guide, 2nd edition Fultus Corporation ISBN 1-59682-112-4

Debra Cameron, James Elliott, Marc Loy and Eric Raymond (2004). Learning GNU-Emacs, 3E O'Reilly ISBN 0-596-00648-9

Cleve Moler (2008), Numerical Computing with MATLAB, SIAM ISBN: 978-0-89871660-3

Nicholas Wells, A Complete Guide to Linux System Administration, ISBN: 978-0-89871660-3

Helmut Kopka, Patrick W. Daly. A Guide to LATEX: Document Preparation for Beginners and Advanced Users (3rd Edition)" Addison-Wesley ISBN: 0201398257

Andrew S. Tanenbaum and David J Wetherall, 5E (2011). Computer Networks Pearson ISBN 10: 0-13-212695-8