FIT 101: ICT Applications

INTRODUCTION

This course provides basic Information and Communication Technology (ICT) knowledge and skills required in the working environment.

LEARNING OUTCOMES

After successfully completing this course, student will be able to:

- ➢ Describe the basic terminology used in personal computing
- ➢ Define the basic concepts of Information and Communication Technology (ICT)
- ➢ Carry out basic operations in the desktop environment of Windows and Linux
- ➢ Prepare a document using a word processing package
- ➢ Prepare a data sheet using a spreadsheet package
- ➢ Prepare a database to store, retrieve and manage data and information using a database management system
- ➢ Design a presentation using a presentation package
- ➢ Search for information using a browser on the Internet
- ➢ Communicate through Internet using common tools

Assessment Criteria

There will be formative tests for each module of the FIT101course through online learning environment (LMS). They are online assignments. The final course examination consists of an e-test of 2 hours and a practical test of 1 hour. Only those who pass the e-test will qualify for the practical test.

OUTLINE OF SYLLABUS

Topic	Average hours*
1. Fundamentals of ICT	24
2. Working with a Computer	30
3. Word Processing	42
4. Spreadsheet Management	42
5. Database Handling	42
6. Electronic Presentation	21
7. Internet and Communication	21
8. Managing a Computer	18
Total	**240**

* *Depending on student capability, this could vary*
RECOMMENDED MATERIAL

Main Reading:

Ref1: Introduction to Computers (6th Edition) by Peter Norton, Tata McGraw-Hill Edition, ISBN 0-07-059374-4

Ref2: Microsoft Office 2003: The Complete Reference, Jennifer Ackerman Kettell, Guy Hart-Davis, Curt Simmons, Tata McGraw-Hill Edition 2003. ISBN 0-07-058299-8

Ref3: Student Manual of UCCA

DETAILED SYLLABUS

1. **Fundamentals of Information and Communication Technology (ICT) (24 hrs)**

   Instructional Objectives:
   - Describe what ICT is
   - List the factors affecting the performance of a computer
   - Describe input, output and storage devices
   - Compare and contrast System Software and Application Software
   - Explain what a computer system is as well as its parts
   - Describe a computer network
   - Describe the terms Internet, Intranet and Extranet
   - Describe the usage of ICT in different sectors
   - Explain health problems due to usage of computers
   - Explain how to protect your information system
   - Explain privacy issues and security policies

   1.1 Basic Concepts
   - 1.1.1   Introduction to ICT [Refer LMS resources)
   - 1.1.2   Different types of computers (PC, Workstation, Laptop, PDA) [Ref1.: Pg 5-10]
   - 1.1.3   Main parts of a computer system [Ref1.: Pg 25-39]
   - 1.1.4   Components inside the casing/system unit [Refer LMS resources]
   - 1.1.5   Factors affecting the performance of a computer [Ref1.: Pg 133-140]

   1.2 Hardware
   - 1.2.1   Input devices [Ref1.: Pg 30-31, 68-78]

1.2.2 Output devices [Ref1.: Pg 30-31, 87-97, 108-117]

1.2.3 Storage devices [Ref1.: Pg 31-32]

1.2.4 Processing devices [Ref1.: Pg 128-133]

1.3 Software [Ref1.: Pg. 32-34, 204-205, 226-229]

1.3.1 System software [Ref1.: Pg 32-34]

1.3.2 Introduction to PC operating systems [Ref1.: Pg 205-211, 226-229]

1.3.3 Application software [Ref1.: Pg 32-34]

1.4 Computer Networks

1.4.1 Local Area Network (LAN) [Ref1.: Pg 248]

1.4.2 Wide Area Network (WAN) [Ref1.: Pg 248]

1.4.3 Metropolitan Area Network (MAN) [Ref1.: Pg 249]

1.4.4 Internet [Ref1.: Pg 286-292]

1.4.5 Intranet and Extranet [Ref1.: Pg 351-352]

1.5 Usage of ICT [Ref1.: Pg. 11-19]

1.5.1 Computers at work [Ref1.: Pg 11-19]

1.5.2 ICT usage in different sectors (e-commerce, e-banking, e-medicine)
       [Refer LMS resources]

1.6 Health, safety and environment

1.6.1 Computer based good working environment [Ref1.: Pg 60-64, LMS
       resources]

1.6.2 Computer related health problems [refer to LMS resources]

1.6.3 Protecting environment [refer to LMS resources]

1.7 Information security

1.7.1 Computer threats -Software (Viruses, Worms, Hackers) [Ref1.: Pg 478-
       483, 532-536]

1.7.2 Threats to hardware [Ref1.: Pg 484-488]

1.7.3 Privacy issues [Ref1.: Pg 499-508]

1.8 Legal regulations [refer to LMS resources]

1.8.1 Copyright and related laws

1.8.2 Data protection laws in Sri Lanka

2. **Working with the computer (Windows and Linux) (30 hrs) [Ref3: Section 2]**

> **Instructional Objectives:**
> - o Describe how to work with the desktop in Windows and Linux
> - o Describe the terms: keyboard, mouse and volume
> - o Describe desktop components
> - o List the basic task of an operating system
> - o Explain how to set the regional settings
> - o Introduce different storing methods
> - o Explain basic functions of managing data
> - o Introduce file and folder handling techniques

2.1 Working with the desktop Windows and Linux

2.2 Setting the environment of a computer

    2.2.1 Display

    2.2.2 Desktop component (Graphical User Interfaces)

    2.2.3 Keyboard

    2.2.4 Mouse

    2.2.5 Volume

    2.2.6 Language, date, time and region

    2.2.7 Desktop windows

2.3 Storing and managing data

    2.2.1 Drives

    2.2.2 Folders and files

    2.2.3 Basic functions (Create, Copy, Move, Paste)

2.4 Files and folder handling techniques

    2.2.1 Text editors

    2.2.2 Restoring

    2.2.3 Searching

    2.2.4 Compressing and uncompressing

3. Word processing (42 hrs)

> **Instructional Objectives:**
> - List different word processing applications
> - List the main features of commonly used word processing applications
> - Format document for accepted professional standards
> - Apply Mail-Merge Wizard to create personalized documents
> - Apply security settings

3.1   Introduction [Ref2.: Pg. 3-4]

    3.1.1   What is word processing?

    3.1.2   List different word processing applications

3.2   Getting started with Microsoft Word [Ref2.: Pg. 105-119]

    3.2.1   How to start MS Word

    3.2.2   The MS Word interface

    3.2.3   Using help

3.3   Creating your first document [Ref2.: Pg. 43-44]

    3.3.1   Starting a document

    3.3.2   Saving a document

    3.3.3   Closing documents

    3.3.4   Opening documents

    3.3.5   Working with multiple documents

3.4   Adjusting environment settings [Ref2.: Pg. 106-108, 119,

    3.4.1   Page views

    3.4.2   Zoom tool

    3.4.3   Displaying/hiding built-in toolbars

    3.4.4   Viewing/hiding non printing characters

3.5   Entering text and symbols [Ref2.: Pg. 135-136]

    3.5.1   Insert/overtype mode

    3.5.2   Inserting symbols and special characters

3.6   Editing text [Ref2.: Pg. 67-72, 125]

    3.6.1   Selection techniques

    3.6.2   Cut/copy/paste

    3.6.3   Finding and replacing

3.7   Formatting text [Ref2.: Pg. 131-134]

4.   Spreadsheet Management (42 hrs)

> **Instructional Objectives:**
> - List different spreadsheet management applications
> - List the main features of commonly used spreadsheet management
>   application packages
> - Use different functions in spreadsheet applications
> - Analyze and interpret data using MS Excel

4.1   Introduction [Ref2.: Pg. 3, 6]

    4.1.1   What is spreadsheet management?

    4.1.2   List different spreadsheet management applications

4.2   Getting started with MS Excel [Ref2.: Pg. 258-267]

    4.2.1   How to start Excel

    4.2.2   Excel interface

    4.2.3   Excel terminology

    4.2.4   Moving the cell pointer

    4.2.5   Entering data

4.3   Basic file operations [Ref2.: Pg. 257]

    4.3.1   Saving a workbook

    4.3.2   Opening/closing workbook

4.4   Environment settings [Ref2.: Pg. 252-257]

    4.4.1   Option settings

    4.4.2   Display/hide toolbars

    4.4.3   Splitting and freezing panes

4.5   Working with cells [Ref2.: Pg. 279-289]

    4.5.1   Selecting a cell/cells

    4.5.2   Entering different types of data into cells

    4.5.3   Entering formulas/functions into cells

4.6   Formatting cells and worksheets [Ref2.: Pg. 289-293]

    4.6.1   Formatting cell/cells

    4.6.2   Conditional formatting

    4.6.3   Adjusting row height/column width

    4.6.4   Applying colors, patterns and borders

4.6.5   Inserting/deleting rows/columns

4.7   Working with functions [Ref2.: Pg. 305-312, 315-318,323]

4.7.1   Using different types of functions

4.7.2   Using different cell references

4.8   Formatting/modifying charts [Ref2.: Pg. 331-344]

4.8.1   Creating charts

4.8.2   Formatting/modifying charts

4.9   Setting up pages [Ref2.: Pg. 272-275]

4.9.1   Page setup

4.9.2   Adding title rows/columns and headers/footers

4.10   Printing worksheets and charts [Ref2.: Pg. 270-271]

4.10.1   Setting/clearing the print area

4.10.2   Previewing the worksheet

4.10.3   Modifying the worksheet settings

5. Database management (42 hrs)

> **Instructional Objectives:**
> - o   Introduce Database Management
> - o   List different database management applications
> - o   Design and create databases
> - o   Differentiate objects in database management applications
> - o   Create tables, queries, forms and reports
> - o   Modify and use database objects

5.1   Introduction [Ref2.: Pg. 8]

5.1.1   What is database management?

5.1.2   List different database management applications

5.2   Getting started with MS Access [Ref2.: Pg. 495, 504-506]

5.2.1   How to start MS Access

5.2.2   MS Access interface

5.2.3   MS Access objects5.3   Planning and creating databases [Ref2.: Pg. 497-503, 526-530]

5.3.1   Creating a database

       5.3.2   Opening/closing a database

5.4   Creating/modifying tables [Ref2.: Pg. 513-526]

       5.4.1   Using Table Wizard

       5.4.2   Using Design View

       5.4.3   Modifying table structure(s)

       5.4.4   Creating relationships

5.5   Creating queries [Ref2.: Pg. 531, 540, 545-547]

       5.5.1   Using Query Wizard

       5.5.2   Using Design View

       5.5.3   Different types of queries

5.6   Designing Forms [Ref2.: Pg. 551-561]

       5.6.1   Using Form Wizard

       5.6.2   Using Design View

       5.6.3   Sub forms

5.7   Designing Reports [Ref2.: Pg. 561-565]

       5.7.1   Using Report Wizard

       5.7.2   Using Design View

       5.7.3   Modifying reports

6. Electronic Presentation (21 hrs)

Instructional objectives:
- o   Describe what a presentation is
- o   List different presentation application packages
- o   List main features of commonly used presentation application packages
- o   Design presentations using AutoContent Wizard
- o   Design presentations from scratch
- o   Practice the different settings in presentations

6.1   Introduction [Ref2.: Pg 6]

       6.1.1   What is a presentation?

       6.1.2   List different presentation application packages

6.2   Getting started with MS PowerPoint [Ref2.: Pg 377-387]

       6.2.1   How to start MS PowerPoint

       6.2.2   PowerPoint interface

6.2.3   Creating a new presentation using AutoContent Wizard

6.2.4   Creating a new presentation using the Blank Presentation

6.2.5   Viewing the presentation

6.3   Modifying presentations [Ref2.: Pg 389-392]

6.3.1   Adding / deleting slides

6.3.2   Changing the order of slides

6.3.3   Hiding the slides

6.3.4   Working in slide sorter view

6.4   Formatting presentations [Ref2.: Pg 392-394]

6.4.1   Formatting fonts and paragraphs

6.4.2   Working with bulleted and numbered lists

6.4.3   Formatting backgrounds

6.4.4   Working with design templates

6.4.5   Using the slide master

6.5   Working with drawings, graphics and charts [Ref2.: Pg 407-427]

6.5.1   Adding/modifying drawing objects

6.5.2   Inserting/formatting images

6.5.3   Creating/modifying graphs/charts

6.6   Delivering the presentations [Ref2.: Pg 429-439]

6.6.1   Slide transitions

6.6.2   Animation schemes

6.6.3   Custom animations

6.6.4   Rehearsing slide show

6.6.5   Creating custom shows

6.6.6   Packaging for CD

6.6.7   Saving as a web page

6.7   Working with multimedia [Ref2.: Pg 427]

6.7.1   Inserting sounds/video clips

6.7.2   Adding narrations

6.8   Printing [Ref2.: Pg 439]

6.8.1   Setting the printing options

6.8.2   Previewing

7. Internet and Communication (21 hrs)

Instructional Objectives:

- o   Define what Internet is
- o   List facilities/benefits of Internet
- o   Describe the ways to connect to Internet
- o   Use a web browser to surf the Internet
- o   Use search engines to find information on the Internet
- o   Create/use an e-mail account
- o   Describe the security and risks involved in Internet
- o   Describe the concept of eCommerce
- o   Discuss the future of Internet

7.1   Introduction [Ref1.: Pg 285-290]

    7.1.1   What is Internet?

    7.1.2   The history of Internet

    7.1.3   Differences between Internet and World Wide Web

    7.1.4   Introducing the Internet buzz words

7.2   Identifying facilities/benefits of Internet [Ref1.: Pg 295-297]

7.3   Connecting to Internet [Ref1.: Pg 331-339]

    7.3.1   Describing the different connecting methods

    7.3.2   List the advantages and disadvantages of connecting methods

7.4   Web Browsers [Ref1.: Pg 295-299]

    7.4.1   Introducing different web browsers

    7.4.2   Interfaces of Web Browsers

    7.4.3   Setting up browser's home page

    7.4.5   Saving the contents opened from the web browser

    7.4.6   Downloading different contents from the Internet

7.5   Search Engines [Ref1.: Pg 301-306]

    7.5.1   Introducing different search engines

    7.5.2   Finding information using search engines

7.6   e-mail [Ref1.: Pg 312-315]

    7.5.1   Describe different e-mailing methods

    7.5.2   List e-mail client software

    7.5.3   Creating a free e-mail account

    7.5.4   Sending/receiving e-mails

7.5.5   Sending/receiving attachments

7.7   Security and risk in Internet [[Ref1.: Chapter 13]

7.7.1   Security settings in web browsers/e-mail client software

7.7.2   Taking the precautions when using the Internet

7.8   e-Commerce [Ref1.: Pg 345-355]

7.8.1   What is e-Commerce?

7.8.2   Common e-Commerce web sites

7.9   e-Learning

7.9.1   What is e-Learning?

7.9.2   Advantages of e-Learning

7.10   Future of Internet

8. Managing a Computer (18 hrs) [Ref3.: Section 8]

Instructional Objectives:
o   List the different ports and their functions
o   List the steps of installing/uninstalling an application
o   Describe how to manage a printer
o   Identify/employ preventive maintenance procedures

8.1   Connecting peripheral devices to the computer [Ref1.: Pg. 152-157]

8.1.1   Ports available in a PC

8.1.2   Functions of important ports in a PC

8.2   Installing applications

8.2.1   Minimum requirements to install applications

8.2.2   Different methods of installing applications

8.3   Uninstalling applications

8.3.1   Reasons for uninstalling an application

8.3.2   The method of uninstalling an application

8.3.2.1   Using uninstall program

8.3.2.2   Using control panel

8.4   Using printer(s)

8.4.1   Installing printer(s)

8.4.2   Changing the default printer

8.4.3   Viewing, pausing and deleting print jobs

8.5   Preventive maintenance (PM)

    8.5.1   Importance/benefits of PM

    8.5.2   PM procedures

8.6   Installing and using language packs

8.7   Improving keyboard skills (Typing speed, Shortcut keys)

PLATFORM

- Windows XP Professional and Linux (Fedora, Red Hat Linux, edubuntu)
- Microsoft Office 2003 Professional Edition
- Internet Explorer 6.0 or above and Mozilla Firefox 2.0 or above