

**OSHWAL ACADEMY NAIROBI -JUNIOR HIGH**  
**ICT DEPARTMENT**  
**YEAR 7 TOPIC OUTLINE 2010/2011 ACADEMIC YEAR**

- 1. Introduction to ICT**
  - Elements of ICT:
  - Internet
  - Telephony
  - Fax
  - Computers
  - Computer as core device in ICT
  - Def. of computer
  - Types of computers
- 2. Structure of a Computer System**
  - The input, Process, Output and Storage diagram
  - Functions of parts
  - Common Terms:
    - Data
    - Information
    - Program
- 3. Physical Input devices**
  - Keyboard
  - Mouse
  - Joystick
  - Graphics Tablet
  - Tracker ball
- 4. Input Devices that use light**
  - Touch screen
  - Digital camera
  - Barcode reader
  - Scanner
  - OMR
  - OCR
  - MICR
  - Magnetic stripe card
  - Smart Card
- 5. Other Input Devices**
  - Speech Input
  - MIDI
  - Sensors
  - Mechanical switches
  - Proximity switches
  - Temperature sensor
  - **Word processing**
- 6. Output Devices**
  - Introduction to Output Devices
  - Monitors
  - Printers
  - Computer Output on Microfilm
- 7. Other output devices**
  - Plotters
  - Sound/Voice
  - Control applications
  - Switches
  - Actuators
  - (Hydraulics, Pneumatics)
  - Motors
- 8. Internal data storage**

Bits

  - Bytes
  - ASCII
  - Internal data storage
  - Random access memory
  - Read only memory
- 9. Removable data storage**
  - Zip and Jaz
  - Magnetic tape
  - Cds
- 10. Removable data storage**
  - DVD
  - VCD
  - Flash disks
- 11. operating system**

Functions

types of operating systems
- 12. Modes of processing**

# **YEAR 8 TOPIC OUTLINE – SEPT 2010- JULY 2011**

## **TERM 1**

### **APPLICATION SOFTWARE**

1. Desktop Publishing – Using Ms Publisher
2. Presentation software – Using Ms PowerPoint
3. Spreadsheets – Using Ms Excel

**Practicals in all the three areas of application software**

## **TERM 2**

1. Computer Graphics
2. Manual filing systems
3. Data Capture Forms
4. Data Integrity – Validations & Verification
5. Databases
6. Files – Updating files ( Inserting, Deleting, Amending)

**Practicals – Ms Paint, Databases.**

## **TERM 3**

### **COMPUTER APPLICATIONS**

1. Data Logging
2. Computer Control
3. Modelling and Simulations
4. Practical applications of ICT in every day life – Supermarkets, People

**Practicals – Ms Excel, Ms Access**

# **Year 9 Topic Outline**

## **Term 1**

1. Introduction to networking:
  - a. Differentiate network types and topologies.
  - b. Network media types
  - c. Equipments used in computer networks
  - d. Benefits of computer networks
  
2. Applications of ICT.
  - a. ICT in Banking
  - b. ICT in the Police force
  - c. ICT in NHS(National Health Service)
  - d. ICT in Car manufacture
  
3. Effects of ICT in the society.
  - a. Communication
  - b. Environment
  - c. Education
  - d. Business
  - e. Effects on Jobs

### **Practical work 1: Word Processing**

- a. Usage of Ms Word formatting tools
- b. Mail merge in Ms Word
- c. Creation of Mailing list and envelopes

### **Practical work 2: Spreadsheets**

- a. Relative and absolute referencing
- b. Linking sheets
- c. Charts
- d. Worksheet manipulation

## **Term 2**

1. Computers and the law.
  - a. Basic principles of personal data
  - b. Legislative Acts in computing
2. System security
  - a. Definitions
  - b. Physical security
  - c. Software security
  - d. File protection in computing.
  
3. Computer Aided Manufacturing (CAM)
  - a. Definitions
  - b. Input and Output devices used in CAM
  - c. Robots
  - d. Advantages and Disadvantages of using CAM
  - e. CAM application
  
4. Data
  - a. Computerized Filling system vs. Manual system
  - b. Database Packages
  - c. Collecting and checking data

### **Practical Work 1: Database design**

- a. Creating Tables for data entry
- b. Table properties and Primary key
- c. Linking tables in Ms Access
- d. Design Queries
- e. Design Forms
- f. Creation of Macros and Command button interface in forms
- g. Design Reports
- h. Creating calculated fields.

## **TERM 3**

1. Types of ICT systems.
2. The role of the Central Processing Unit
  - a. Components of a CPU
  
3. Hardware and Software
  - a. Definitions
  - b. Input Devices

### **Practical Work 1: Database projects**

## **Year 10 and 11**

### **Term 1 – Topic Outline**

1. Know about different types of ICT systems and be able to give examples of where and how they are used
2. The role of the central processing unit
3. Understand that an ICT system is made up hardware and software
4. Understand that an ICT system is made up hardware and software (output Devices)
5. Understand data storage capacity terminology
6. **Processing:** processor, memory, ROM, RAM **Storage:** for example hard disks, optical discs, flash

### **Term 2 – Topic Outline**

1. Identify the constructional parts of ICT system and their function
2. The role of central processing unit
3. Interpret the internal representation of data in an ICT system
4. Describe the key functions of the operating system
5. Recognise and use file handling
6. Give reasons for encoding data and information for computer processing and relate this operation to a given application
7. Selection of project topics

### **Term 3 – Topic Outline**

1. Understand that an ICT system is made up software
2. Recognize and use file handling terms
3. Encoding data for computer processing through an application
4. Creating a computerized system and testing some parts.
  - Investigating the system  
(Focus on a school library system)
5. Use data capture operations and relate these to a given application
6. Algorithms - Developing algorithms
7. Forms of testing

### **PRACTICALS IN BOTH YEARS 10 AND 11**

A cross-cut of application software which include:

- Word processor
- Spreadsheets
- Databases
- DTP
- Graphics
- Presentation
- Multi media

## **Year 11**

### **Term 1 – Topic Outline**

1. Spreadsheets and Modeling
2. Communications, Networks and the Internet.
3. The Internet
4. Video Conferencing

Practical work using different application software.

### **Term 1 – Topic Outline**

1. Complete any incomplete theory topics
2. More emphasise on practical work
3. Tackling past papers