Discovering Computers
Introduction to Computing

INTRODUCTION TO
COMPUTERS

Course Outline & Objectives

- Computer Literacy
- Integration Literacy
- Information Literacy
- Computer Organization
- Introduction to Hardware
- Introduction to Software
- Introduction to processing
Computers are present in every aspect of daily living – in the workplace, at home, in the classroom, and for entertainment.

**WHAT IS A COMPUTER AND WHAT DOES IT DO?**

- An electronic machine that can accept data (input), manipulate the data according to specified rules (process), produce results (output), and store the results for future use.
WHAT DOES IT DO?

Input

- Accepts **data / input**
  - Raw facts, figures, and symbols

Processing

- Processes data into **information**
  - Data that is organized, meaningful, and useful

Output

Information produced and stores results

Processing data into information
THE COMPONENTS OF A COMPUTER

- Variety of hardware components that work together with software to carry perform calculations, organize data, and communicate with other computers

- Input devices
- Output devices
- System unit
- Storage devices
- Communications devices
Both Sides of the System Unit

- PS/2 port (keyboard)
- USB ports
- Serial port (dial-up modem)
- Ethernet port (network)
- PS/2 port (mouse)
- LPT1 Printer port (printer)
- VGA port (monitor)
- Line in
- Game port (joystick)
- Microphone
- Speakers
**FEW DEFINITIONS**

- **Hardware** – the physical equipment that makes up the computer
- **Software** – a series of instructions that tells the hardware how to perform tasks
- **Storage** – holding data and information for future use
- **Information processing cycle** – the cycle of input, process, output, and storage
- **User** – a person who communicates with the computer
COMPUTER SOFTWARE

Computer programs

- A series of instructions that tells the hardware of a computer what to do and how to do it
- Stored on various storage media
- Installing programs
- Running programs

COMPUTER SOFTWARE

System software
Application software
Utility programs
COMPUTER SOFTWARE

System software
- Operating system
  - Microsoft Windows
  - Mac OS
COMPUTER SOFTWARE

System software

- User interface
  - Graphical user interface (GUI)
    - Microsoft Windows
    - Mac OS

Application software

- Software suites
  - Word Processing
  - Spreadsheet
  - Database
  - Presentation graphics
  - Communication

AppleWorks is a popular suite used by teachers and students primarily on Macintosh computers.
COMPUTER SOFTWARE

- Application software
  - Packaged software
  - Development softwares

Packaged software is available at computer stores, office equipment suppliers, retailers, and the Internet.

- Custom software
- Shareware, freeware, and public domain software
- Software development
  - Computer Programmers
  - Systems Analyst
Utilities

- help analyze
- Configure
- optimize and maintain the computer.

WHY IS A COMPUTER SO POWERFUL?

- Speed
- Reliability
- Accuracy
- Storage
- Communications
  - Network
  - Electronic mail
WHY USE COMPUTER TECHNOLOGY IN EDUCATION?

- Technology is everywhere
- Technology can support learning
- Computers support communications beyond classroom walls
- Support of national and international organizations

Elements of an Information System

- People
- Procedures
- Data
- Software
- Hardware

Step 1.
People develop procedures for processing data

Step 2.
People use software to enter data into computer (hardware)

Step 3.
Software processes data and directs hardware to store and output information
Computer Applications in Society

Examples of computer applications in society?
- Education
- Finance
- Government
- Healthcare
- Science
- Publishing
- Industry

Advantages & Disadvantages of Computers

What are the disadvantages of using computers?
- Violation of Privacy
- Impact on Labor Force
- Health Risks
- Impact on Environment

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CHAPTER SUMMARY

- Explain the difference between computer and information
- Define and describe computers and their functions
- Identify the major components of a computer
- Explain the four operations of the information processing cycle: input, process, output, and storage