

Fundamental of computing



Lecture 1

Introduction to computers

Syllabus

- Overview
- Course Description
- Course Topics
- Textbook
- Course Grade

Overview

□ The Course

- Theory Lecture (2 hours)
- Practical\Tutorials (2 hours) Lab
- Assignments
- Exams

□ Material

- Class notes
- Lecture Notes
- Text Book
- Reference Book
- Extra reading & websites
- Presentations slides

Course Description

This course will introduce:

- ❑ fundamental electronic data processing concepts and associated terminologies.
- ❑ the development of computers and computer applications.
- ❑ the impact of computers on society.
- ❑ computing system, CPU, device interfaces, and binary number systems.

Course Topics

- Introduction
- Internet
- Computing components
- Input and output devices
- Digital Storage
- Programs and applications
- Operating Systems
- Networking
- Databases
- Number systems

Textbook

- Discovering Computers Technology in a World of Computers, Mobile Devices, and the Internet
 - Vermaat, Sebok, Freund, Campbell, frydenberg, Copyright 2016.
- Discovering Computers Fundamentals Your Interactive Guide to the Digital World.
 - Gary B. Shelly ,Misty E. Vermaat, 2011

Course Grade

□ Evaluation

Midterm Exam:	20%
Assignments & Homework:	10%
Practical exams:	20%
Final Exam:	50%
Total	100%

Computer Fundamentals

- The word '**computer**' comes from '**compute**' which means to calculate.

A computer is an electronic machine that takes an input, processes it to produce the desired output, and can store results.

- Computer is a programmable machine.
- Every computer is a combination of:
 - **Hardware**
 - **Software**

Computer Fundamentals

- **Hardware** consists of the mechanical and electronic devices, which we can see and touch.
- The **software** consists of programs, the operating system and the data that reside in the memory and storage devices.

Basic Functions of Computer

□ There are four basic functions of the computer: **Input, Processing, Output, and Storage.**

1) Accepts data (Input)

➤ keyboard, mouse, scanner, etc.

2) Process data

➤ the data is processed according to the instructions given to the computer

3) Produces results (output)

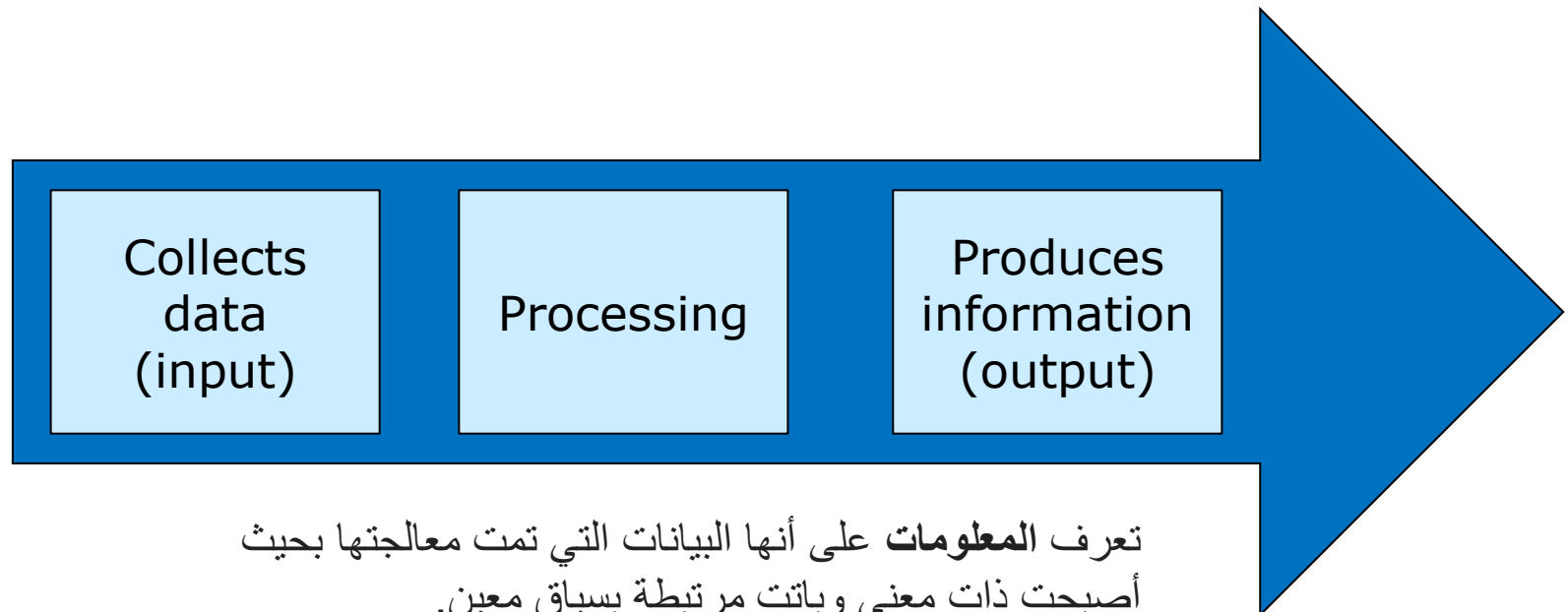
➤ monitor, printer, etc

4) Stores results

➤ hard disk, CD, pen drive etc.

Data and information

- **Data** is a collection of unprocessed items, which can include text, numbers, images, audio, and video.
- **Information** conveys meaning to users.
- **Computers process data into information**



Data and information



DATA (input)

2 Medium Sodas	\$1.49 each
1 Small Turkey Sub	\$3.49 each
1 Caesar Salad	\$4.49 each
1 Bag of Chips	\$0.99 each
3 Cookies	\$0.39 each
Amount Received	\$20.00



INFORMATION (output)

Data and information

Example 1	Each student's test score is one piece of data.	The average score of a class or of the entire school is information that can be derived from the given data.
Example 2?		

Characteristics of Computer

- ❑ High Speed
- ❑ Accuracy
- ❑ Diligence
- ❑ Storage (Power of Remembering)
- ❑ Reliability (easy maintenance, long lives)
- ❑ Reduction in Paper Work

Disadvantages of Using Computers

- ❑ No I.Q (No creativity)
- ❑ No Feeling
- ❑ More use of computer and mobile is proving to be harmful to health
- ❑ risk of your personal data being stolen
- ❑ waste your time (Doing extra unwanted activities)
- ❑ Impact on Labor Force

The Components of a Computer

A computer contains many electric, electronic, and mechanical components known as hardware

Hardware contains the following units :

1. Input Unit
2. Processing Unit
3. Storage Unit
4. Output Unit
5. Power Unit