**Chapter 1 Objectives**

- Recognize the importance of computer literacy
- Define the term, computer
- Identify the components of a computer
- Discuss the advantages and disadvantages of using computers
- Recognize the purpose of a network
- Discuss the uses of the Internet and World Wide Web
- Distinguish between system software and application software
- Describe the categories of computers
- Identify the elements of an information system
- Describe the various types of computer users
- Discuss various computer applications in society

**A World of Computers**

What is computer literacy?
- Knowledge and understanding of computers and their uses
- Computers are everywhere

**What Is a Computer?**

How is a computer defined?
- Electronic device operating under the control of instructions stored in its own memory

Accepts data
- Raw facts, figures, and symbols

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

Produces and stores results
What Is a Computer?

What is the information processing cycle?
- Input
- Process
- Output
- Storage
- Communication

The Components of a Computer

What is an input device?
- Hardware used to enter data and instructions

What is an output device?
- Hardware that conveys information to one or more people

What is the system unit?
- Case containing electronic components used to process data
What are two main components on the motherboard?

Central Processing Unit (CPU)
Also called a processor
The electronic component that interprets and carries out the basic instructions that operate the computer

Memory
Consists of electronic components that store instructions waiting to be executed and data needed by those instructions

What is storage?
- Holds data, instructions, and information for future use

Storage media
Physical material on which data, instructions, and information are stored

Storage device
Records and retrieves items to and from a storage medium

What is storage media?
Portable, thin memory cards used in:
- Digital cameras
- Handheld computers

What is a floppy disk?
- Thin, circular, flexible disk enclosed in rigid plastic shell
The Components of a Computer

What is a USB flash drive?
- Provides much greater storage capacity than a floppy disk or Zip® disk
- Small and lightweight enough to be transported on a keychain or in a pocket

What is a hard disk?
- Provides greater storage capacity than a floppy disk, Zip disk, or USB flash drive
- Most are housed inside of the system unit

What is a compact disc?
- Flat, round, portable metal disc
  - CD-ROM
  - DVD-ROM

What is a communications device?
- Hardware component that enables a computer to send and receive data, instructions, and information
- Occurs over cables, telephone lines, cellular radio networks, satellites, and other transmission media
Advantages and Disadvantages of Using Computers

What are the advantages of using computers?
- Speed
- Reliability
- Consistency
- Storage
- Communications

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

Networks and the Internet

What is a network?
- Collection of computers and devices connected together

Transmission Media
- Cables
- Telephone lines
- Cellular radio
- Satellites

Communication Device
- Enables a connection between computers
- One type is a modem

What are the reasons to network?
- To share
- Resources
- Hardware devices
- Software programs
- Data
- Information
- To save time and money
Networks and the Internet

What is a server?
- A server manages the resources on a network
- Clients access the resources on the server

What is the Internet?
- Worldwide collection of networks that connects millions of businesses, government agencies, educational institutions, and individuals

Why do users access the Internet?
1. Communications
2. Information
3. Shopping
4. Banking and Investing
5. Classes
6. Entertainment

What is the Web?
- Billions of documents, called Web pages, available to anyone connected to the Internet
Consists of a series of instructions that tells the computer what to do

Also called a program

What is software?

What is a graphical user interface (GUI)?
- Allows you to interact with the software using graphics and icons
- Controls how you enter data and how the screen displays information

What is system software?
- Programs that control or maintain the operations of the computer and its devices

Operating System (OS)
- A set of programs that coordinates all activities among computer hardware devices and allows users to run application software

Utility Programs
- Allow the user to perform maintenance-type tasks usually related to managing a computer, its devices or its programs

What is application software?
- Programs that perform specific tasks for users

- Word Processing
- Spreadsheet
- Database
- Presentation
- Graphics
How do you install and run programs?

What is a programmer?
- Someone who develops application or system software
  - Programmer writes instructions to direct computer to process data into information

What are the categories of computers?
- Personal Computers (desktop)
- Mobile Computers and Mobile Devices
- Midrange Servers
- Mainframes
- Supercomputers
- Embedded Computers

What are the two most popular series of personal computers?
- PC and compatibles use the Windows operating system
- Apple Macintosh uses the Macintosh operating system (Mac OS)
Personal Computers

What is a desktop computer?
- Designed so all of the components fit entirely on or under a desk or table

Mobile Computers and Mobile Devices

What is a notebook computer?
- Portable, small enough to fit on your lap
- Also called a laptop computer
- Generally more expensive than a desktop computer

Mobile Computers and Mobile Devices

What is a Tablet PC?
- Especially useful for taking notes
- Resembles a letter-sized slate
- Allows you to write on the screen using a digital pen
- Especially useful for taking notes

Mobile Computers and Mobile Devices

What are mobile devices?
- Small enough to carry in a pocket
- Internet-enabled telephone is a “smart phone”
**Mobile Computers and Mobile Devices**

**What is a handheld computer?**

- Small enough to fit in one hand
- Used by mobile employees such as meter readers and delivery people

**What is a personal digital assistant (PDA)?**

- Provides personal organizer functions
  - Calendar
  - Appointment book
  - Address book
  - Calculator
  - Notepad

**What are smart phones and smart watches?**

- A smart phone is an Internet-enabled telephone that usually provides PDA capabilities
- A smart watch is an Internet-enabled watch that automatically adjusts to time zone changes and stores personal information

**Servers**

**What types of servers are there?**

- Midrange server: Powerful, large computer that supports up to a few thousand computers
- Mainframe: Very powerful, expensive computer that supports thousands of computers
- Supercomputer: The fastest, most powerful, most expensive computer. Used for applications requiring complex mathematical calculations
Embedded Computers

What is an embedded computer?
- A special-purpose computer that functions as a component in a larger product

Elements of an Information System

What are information system elements?
- Hardware
- Software
- Data
- People
- Procedures

Examples of Computer Usage

What software is available for a home user?
- Productivity software
- Speciality software
- Web usage
- E-mail

Examples of Computer Usage

What software is available for a small office/home office (SOHO) user?
Examples of Computer Usage

What is available for a mobile user?

- **Hardware**
  - Notebook computers
  - PDAs
  - Smart phones

- **Software**
  - Word processing
  - Spreadsheet
  - Presentation graphics software

Examples of Computer Usage

What are the needs of a power user?

- **Speed and large amounts of storage**
- **Types of power users**
  - Engineers
  - Scientists
  - Architects
  - Desktop publishers
  - Graphic artists

Examples of Computer Usage

What are the needs of the large business user?

Computer Applications in Society

What are some examples of computer applications in society?

- Education
- Finance
- Government
- Healthcare
- Science
- Publishing
- Travel
- Industry