

# ***CGS 2100***

## ***Chapters 6,***

### ***9, 11, 12***

- Link to online flashcards: [http://quizlet.com/\\_4xwb6](http://quizlet.com/_4xwb6)

# Chapter 6

## *Understanding and assessing hardware*

### 1. How can I determine whether to upgrade existing computer or buy a new one?

- You start by figuring out what you want your ideal computer to be able to do. Next, you learn more about the components of your computer, its CPU, memory, storage devices, audio and video devices, and its ports.
- **Moore's Law** – predicts that the number of transistors inside a computer will increase so fast, that CPU capacity will double every 18 months. The number of transistors inside a CPU determines how fast it can process data.
- CPU = Central Processing Unit, the computer's brain.
- The most common form of memory found in computers is called DRAM (dynamic random access memory)- increases about 60% every year.
- Before purchasing a computer, ask yourself: "What kinds of CPU's are there and how do CPU's affect system performance?" and "How much RAM do I need and how will it play a role in the system?"
- Want to buy a new computer but don't want to transfer files manually? Migrate files using EASY TRANSFER from Windows 7 or other PC migration software.
- The main distinction between desktops and notebooks is portability.
- "Desktop systems are invariably a better value than notebooks in terms of computing power gained for your dollar...it's easier to add new ports and devices because of the amount of room available. They are more reliable and have a longer lifespan." (pg. 271)
- **How long will a notebook be useful to me?** Take note of the max amount of memory in your notebook, because that cannot be changed. Internal hard drives are not easy to install but if you have a fast transfer port like an **external SATA (eSATA)**, you can easily add an external hard drive for more storage space, or an **Express Card** can

be added easily to notebooks to add further capabilities to your system.

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<b>Notebooks</b>	<b>Desktops</b>
Portable	Best value: more processing power, memory, and storage for lower price.
Take up less space	Less susceptible to damage, harder to steal
Smaller display	Larger display
Easier to ship/transport if damaged	Easier to expand/upgrade

- To determine whether the system you already have has the right components you need, you must conduct a **system evaluation**.
- **A system evaluation is where you look at your systems subsystems which include its:**
  - CPU subsystem
  - Memory subsystem (RAM)
  - Storage subsystem (Hard drive)
  - Video subsystem (Video card & monitor)
  - Audio subsystem (sound card and speakers)
  - Ports

**SuperFetch**- monitors which applications you use the most and preloads them into your system memory so that they are ready to go right away

## 2. What does a CPU do and how can I evaluate its performance?

- **CPU subsystem**
  - Located on the motherboard.
  - The CPU is comprised of 2 units:
    1. The Control Unit – coordinates activities of all other computer components.