

CGS2060 Exam 2 Study Guide

Key Terms

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3D sound card- An expansion card that enables a computer to produce sounds that are omnidirectional or three dimensional.

Access time- The time it takes a storage device to locate its stored data.

Bit depth- The number of bits a video card uses to store data about each pixel on the monitor.

Cache memory- Small blocks of memory, located directly on and next to the Central processing unit (CPU)-chip, that act as holding places for recently or frequently used instructions or data that the CPU accesses the most. When these instructions or data are stored in cache memory, the CPU can more quickly retrieve them than if it had to access the instructions or data from random access memory (RAM).

Clock speed- The steady and constant pace at which a computer goes through machine cycles, measured in hertz (Hz).

Core- A complete processing section from a CPU, embedded into one physical chip.

CPU benchmarks- Measurements used to compare performance between processors.

CPU usage graph- Records your CPU usage for the past several seconds.

External SATA (eSATA)- A port that will connect to some external hard drive models.

ExpressCard- Notebooks are often equipped with an ExpressCard slot. The ExpressCard can add a solid state drive (SSD), eSATA and FireWire ports, and other capabilities to your system.

Graphics double data rate 5 (GDDR5)- A standard of video memory.

Graphics processing unit (GPU)- A specialized logic chip that is dedicated to quickly displaying and calculating visual data such as shadows, textures, and luminosity.

Hard drive- A device that holds all permanently stored programs and data; can be located inside the system unit or attached to the system unit via a USB port.

Head crash- Impact of read/write head against magnetic platter of the hard drive; often results in data loss.

Hyperthreading- A technology that permits quicker processing of information by enabling a new set of instructions to start executing before the previous set has finished.

Kernel memory- The memory that the computer's operating system uses.

Latency- The process that occurs after the read/write head of the hard drive locates the correct track, and then waits for the correct sector to spin to the read/write head.

Memory module (memory card)- A small circuit board that holds a series of random access memory (RAM) chips.

Moore's Law- A prediction, named after Gordon Moore, the cofounder of Intel; states that the number of transistors on a CPU chip will double every two years.

Nonvolatile storage- Permanent storage, as in read-only memory (ROM).

Optical drive- A hardware device that uses lasers or light to read from, and maybe even write to, CDs, DVDs, or Blu-ray discs.

Physical memory- The amount of random access memory (RAM) that is installed in a computer.

Platter- A thin, round, metallic storage plate stacked onto the hard drive spindle.

Random access memory (RAM)- The computer's temporary storage space or short-term memory. It is located in a set of chips on the system unit's motherboard, and its capacity is measured in megabytes or gigabytes.

Read/write head- The mechanism that retrieves (reads) and records (writes) the magnetic data to and from a data disk.

Redundant array of independent disks (RAID)- A set of strategies for using more than one drive in a system.

Serial Advanced Technology Attachment (Serial ATA)- A type of hard drive that uses much thinner cables, and can transfer data more quickly than IDE drives.

Sector- A section of a hard drive platter, wedge-shaped from the center of the platter to the edge.

Seek time- The time it takes for the hard drive's read/write heads to move over the surface of the disk to the correct track.

Solid state drive (SSD)- A storage device that uses the same kind of memory that flash drives use, but can reach data in only a tenth of the time a flash drive requires.

Sound card- An expansion card that attaches to the motherboard inside the system unit and that enables the computer to produce sounds by providing a connection for the speakers and microphone.

SuperFetch- A memory-management technique used by Windows 7. Monitors the applications you use the most and preloads them into your system memory so that they'll be ready to go.

Surround sound- A type of audio processing that makes the listener experience sound as if it were coming from all directions.

System evaluation- The process of looking at a computer's subsystems, what they do, and how they perform to determine whether the computer system has the right hardware components to do what the user ultimately wants it to do.

Track- A concentric circle that serves as a storage area on a hard drive platter.

Video card (video adapter)- An expansion card that is installed inside a system unit to translate binary data (the 1s and 0s the computer uses) into the images viewed on the monitor.

Video memory- RAM that is included as part of a video card.

Volatile storage- Temporary storage, such as in random access memory (RAM). When the power is off, the data in volatile storage is cleared out.

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backward compatibility- The accommodation of current devices being able to use previously issued software standards in addition to the current standards.

bandwidth (data transfer rate)- The maximum speed at which data can be transmitted between two nodes on a network; usually measured in megabits per second (Mbps). See also *data transfer rate*.

broadband- A high-speed Internet connection such as cable, satellite, or digital subscriber line (DSL).

Cat 6 cable- A UTP cable type that provides more than 1 GB of throughput.

client- A computer that requests information from a server in a client/server network (such as your computer when you are connected to the Internet).

client/server model- A way of describing typical network functions. Client computers (such as your desktop PC) request services, and servers provide ("serve up") those services to the clients.

coaxial cable- A single copper wire surrounded by layers of plastic insulation and sheathing; used mainly in cable television and cable Internet service.

data transfer rate (bandwidth)- The maximum speed at which data can be transmitted between two nodes on a network; usually measured in megabits per second (Mbps).

digital subscriber line (DSL)- A type of connection that uses telephone lines to connect to the Internet and that allows both phone and data transmissions to share the same line

Ethernet network- A network that uses the Ethernet protocol as the means (or standard) by which the nodes on the network communicate.

fiber-optic cable- A cable that transmits data at close to the speed of light along glass or plastic fibers.

fiber-optic service (FiOS)- Internet access that is enabled by transmitting data at the speed of light through glass or plastic fibers.

firmware- System software that controls hardware devices.

gigabit Ethernet- The most commonly used wired Ethernet standard deployed in devices designed for home networks which provides bandwidth of up to 1 Gbps.

Hacker- Anyone who unlawfully breaks into a computer system (whether an individual computer or a network).

home area network (HAN)- A network located in a home that is used to connect all of its digital devices.

home network server- A device designed to store media, share media across the network, and back up files on computers connected to a home network.

Internet appliance- A device used for easy access to the Internet, social networking sites, e-mail, video, news, and entertainment. These devices fall into a category somewhere between smartphones and full-blown computers.

Internet service provider (ISP)- Companies that specialize in providing Internet access. ISPs may be specialized providers, like Juno, or companies that provide other services in addition to Internet access (such as phone and cable television).

local area network (LAN)- A network in which the nodes are located within a small geographic area.

metropolitan area network (MAN)- A wide area network (WAN) that links users in a specific geographic area (such as within a city or county).

Multiple Input Multiple Output (MIMO)- A design in routers that provides for faster wireless data transmission by utilizing more than one antenna to transmit and receive data.

Network- A group of two or more computers (or nodes) that are configured to share information and resources such as printers, files, and databases.

network adapter- A device that enables the computer (or peripheral) to communicate with the network using a common data communication language, or protocol.

network administration- Involves tasks such as: (1) installing new computers and devices, (2) monitoring the network to ensure it is performing efficiently, (3) updating and installing new software on the network, and (4) configuring, or setting up, proper security for a network.

network architecture- The design of a computer network; includes both physical and logical design.

network-attached storage (NAS) device- A specialized computing device designed to store and manage network data.

network interface card (NIC)- An expansion card that enables a computer to connect other computers or to a cable modem to facilitate a high-speed Internet connection.

network navigation device- A device on a network such as a router, hub, and switch that moves data signals around the network.

network operating system (NOS)- Software that handles requests for information, Internet access, and the use of peripherals for the rest of the network nodes.

network-ready device- A device (such as a printer or external hard drive) that can be attached directly to a network instead of needing to attach to a computer on the network.

node- A device connected to a network such as a computer, a peripheral (such as a printer), or a communications device (such as a modem).