**Overview**

Work individually to understand and establish the specifications for a PC dedicated to a specific task or application.

My PC application topic Is: Business Office Computer

Answering the student questions will help you to develop a deeper understanding of the main components of a personal computer. It will also help you to identify the features that are most important for your specific PC application topic and the features that are nice to have but are not as critical for your topic.

Preparing a brochure explaining your PC application topic and your selection of personal computer components and features will help you to summarize what you have learned from the student questions. The brochure will also help you to share your findings in a “tradeshow” to be held in class.

The date for the “tradeshow” is: Wednesday October 23rd

**Student Questions**

1. Think about your PC application topic. Do some research to find general answers to the following questions.
   1. How important is computer speed for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

- The speed of the computer would probably be medium because of many reasons. It doesn’t need to be a fast computer because it’s just used for business purposes. It can’t be slow either because if you are in a meeting and you need to use your PC immediately, then you would need to open it up but if it is slow then you can get into trouble.

* 1. How important is data storage for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

- For storage I would need a High amount because in a workplace you would need to download lots of blueprints and ideas to your workplace.

* 1. How important is graphics and sound for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

- The graphics and sound for my PC application is going to be low because I wouldn’t need to use it to do work. The only time I would be using sound and graphics would be to play a video but still it doesn’t require high resolution or sound.

* 1. How important is internet connectivity for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.

- Internet connectivity would be a high because if you are in a meeting and you need to use your PC immediately, then you would need to open it up but if it is slow then you can get into trouble or get fired/demoted.

1. CPU Processor Chip
   1. What speed of CPU Chip do you require? (High / Medium / Basic)

- For CPU Chip I would need probalbly a basic one. I wouldn’t need a really good one since all I would be using this computer for is just business or work.

* 1. Provide an example of a high speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- 15.6" IPS-level Full HD 4-Way NanoEdge bezel display with a 92% screen to body ratio for immersive visuals

- Latest 8th generation Intel Core i7-8565U Quad Core Processor (8M Cache, up to 4.6 GHz)

- NVIDIA GeForce GTX 1050 2 GB GDDR5 (with Max-Q Technology) graphics

- Fast storage and memory featuring 1TB PCIe SSD with TPM chipset support and 16GB DDR4 RAM

- Exclusive ErgoLift design for improved typing position, optimized cooling system and enhanced audio performance

- Built-in HD IR camera for facial recognition sign in with Windows Hello

- Extensive connectivity with HDMI, USB Type C, Gigabit-class Wi-Fi 5 (802.11ac), Bluetooth 5.0 and SD card reader

- MIL-STD 810G military standard for reliability and durability

- Sleek and lightweight 3.68 lbs for comfortable portability

- Carry sleeve and USB 3.0 to RJ45 (Ethernet) cable included

- Newegg Exclusive

- $2,131

* 1. Provide an example of a medium speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- Intel Core i7 8th Gen 8565U (1.80 GHz)

- 16 GB Memory 256 GB SSD

- NVIDIA GeForce MX130

- 1920 x 1080

- Windows 10 Pro 64-bit

- $1,369

- NewEgg

* 1. Provide an example of a basic speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- Intel Core i5 8th Gen 8265U (1.60 GHz)

- 8 GB Memory 256 GB SSD

- Intel UHD Graphics 620

- 1920 x 1080

- Windows 10 Pro 64-bit

- $799

- NewEgg

* 1. What would be the least expensive CPU Chip that meets your requirements? List the Model Number, Price, and Vendor Source.

- AMD B450\

- Supports 1st, 2nd and 3rd Gen AMD Ryzen / Ryzen with Radeon Vega Graphics / 2nd Gen AMD Ryzen with Radeon Graphics / Athlon with Radeon Vega Graphics Desktop Processors for Socket AM4

- For AMD Ryzen Gen3 (R5/R7/R9):

- Supports DDR4 4133/ 4000/ 3866/ 3733/ 3466/ 3200/ 3066/ 3000/ 2933/ 2800/ 2667 MHz (by A-XMP OC MODE)

- For AMD Other CPU:

- Supports DDR4 3466/ 3200/ 3066/ 3000/ 2933/ 2800/ 2667 MHz (by A-XMP OC MODE)

- Supports DDR4 2667/ 2400/ 2133/ 1866 MHz (by JEDEC)

- $139

- NewEgg

1. RAM Memory
   1. What size of RAM Memory do you require? (Large / Medium / Basic)

- I would need a basic RAM memory because when I’m downloading files I will only need the basic RAM because files or presentations doesn’t use lots of RAM Memory.

* 1. Provide an example of a large size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- DDR4 3200 (PC4 25600)

- Timing 16-18-18-38

- CAS Latency 16

- Voltage 1.35V

- $201.99

- NewEgg

* 1. Provide an example of a medium size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- DDR4 3000 (PC4 24000)

- Timing 16-18-18-38

- CAS Latency 16

- Voltage 1.35V

- $157.99

- NewEgg

* 1. Provide an example of a basic size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- DDR4 3200 (PC4 25600)

- Timing 16-18-18-35

- CAS Latency 16

- Voltage 1.35V

- $57.99

- NewEgg

* 1. What would be the least expensive RAM Memory that meets your requirements? List the Model Number, Price, and Vendor Source.

- DDR3L-1866 SO-DIMM 4GB for Apollo Lake CPU

- Applied Model: DS218+, DS718+, DS918+

- For expanding your Synology NAS server's memory capacity

- $100.99

- NewEgg

1. Graphics Card
   1. What graphics speed and resolution do you require? (High / Medium /Basic - On Motherboard)

- I would only need it as a basic. I only need basic because business computer is a simple basic computer only used for work purposes and I would need a good graphics card because I won’t use anything regarding a graphics card.

* 1. Provide an example of a high-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- NVIDIA Turing GPU architecture gives up to 6X Faster Performance compared to previous-generation graphics cards

- Real-Time RAY TRACING in games for cutting-edge, hyper-realistic graphics

- Dual HDB Fans offer higher performance cooling and much quieter acoustic noise

- Adjustable RGB LED offers configuration options for all your PC lighting needs

- Built for EVGA Precision X1 - EVGA's all-new tuning utility monitors your graphics card and gives you the power to overclock like a pro!

- $1036.99

- NewEgg

* 1. Provide an example of a medium-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- 6GB 192-Bit GDDR6

- Core Clock OC Mode: 1530 MHz

- Gaming Mode (Default): 1500 MHz

- Boost Clock OC Mode: 1890 MHz

- Gaming Mode (Default): 1860 MHz

- 2 x HDMI 2.0b 2 x DisplayPort 1.4

- 1536 CUDA Cores

- PCI Express 3.0

- Built with revolutionary NVIDIA Turing architecture

- $436.99

- NewEgg

* 1. What would be the least expensive Graphics Card that meets your requirements (or do you just need basic graphics provided by the motherboard)? List the Model Number, Price, and Vendor Source.

- I would only need the basic graphics card provided by the motherboard because, business computer is a simple basic computer only used for work purposes and I would need a good graphics card because I won’t use anything regarding a graphics card.

1. Sound Card
   1. Do you require special sound support? (High / Medium /Basic - On Motherboard)

- My business computer on requires a Basic – On Motherboard sound card because I won’t be using the sound control often

* 1. Provide an example of a high-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- PCI Express x1, 5.1 Channels

- TOSLink Optical Input and Output

- Sound Core 3D Processor

- Beamforming Microphone

- $102.99

-NewEgg

* 1. Provide an example of a medium-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- 5.1 channel, 192 kHz / 24-bit Hi-Res audio with a 300ohm headphone amp for detailed, immersive sound with punchy, defined bass

- Realtek ALC1220X codec delivers a crystal clear 116dB signal-to-noise ratio (SNR)

- ASUS Hyper Grounding Technology ensures minimal audio distortion and interference

- Xonar Audio Center enables full audio control via an intuitive, spacious interface

- Included Low Profile Bracket allows the Xonar to fit perfectly into most systems

- $63.40

- NewEgg

* 1. What would be the least expensive Sound Card that meets your requirements (or do you just need basic sound provided by the motherboard)? List the Model Number, Price, and Vendor Source.

- 5.1 Channels

- 24-bit 192KHz

- PCI Express x1 Interface

- $44.99

- NewEgg

1. Motherboard
   1. Do you require any special motherboard features (based on your answers to the above questions)?

- No, I would not need any special Motherboard features I would only need the most basic one.

* 1. Provide an example of a high-end Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- AMD X570

- Supports 2nd and 3rd Gen AMD Ryzen / Ryzen with Radeon Vega Graphics and 2nd Gen AMD Ryzen with Radeon Graphics Desktop Processors for AM4 socket

- 3rd Gen AMD Ryzen Processors support DDR4 4600/ 4533/ 4400/ 4266/ 4133/ 4000/ 3866/ 3733/ 3600/ 3466/ 3200/ 3066/ 3000/ 2933/ 2800/ 2667 MHz by A-XMP OC MODE, and 3200/ 3066/ 3000/ 2933/ 2800/ 2667/ 2400/ 2133/ 1866 MHz by JEDEC

- 2nd Gen AMD Ryzen Processors, 1st and 2nd Gen AMD Ryzen with Radeon Vega Graphics Processors support DDR4 3600/ 3466/ 3200/ 3066/ 3000/ 2933/ 2800/ 2667 MHz by A-XMP OC MODE, and 3200/ 3066/ 3000/ 2933/ 2800/ 2667/ 2400/ 2133/ 1866 MHz by JEDEC

- $439.99 - NewEgg

* 1. Provide an example of a basic Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- Intel Z390

- Supports 9th and 8th Gen Intel Core processors (Socket 1151)

- On board LAN support 10/100/1000Mbps

- DDR4 4300+(OC)/ 4266(OC)/ 4133(OC)/ 4000(OC)/ 3866(OC)/ 3800(OC)/ 3733(OC)/ 3600(OC)/ 3200(OC)/ 2933(OC)/ 2800(OC)/ 2666/ 2400/ 2133

- $236.99

- NewEgg

* 1. What would be the least expensive Motherboard that meets your requirements? List the Model Number, Price, and Vendor Source.

- AMD Promontory B450

- Supports 105W Water Cooling (Pinnacle Ridge); Supports 95W Water Cooling (Summit Ridge); Supports 65W Water Cooling (Raven Ridge)

- AMD Ryzen series CPUs (Pinnacle Ridge) support DDR4 3200+(OC)/ 2933(OC)/ 2667/ 2400/ 2133 ECC & non-ECC, un-buffered memory

- AMD Ryzen series CPUs (Summit Ridge) support DDR4 3200+(OC)/ 2933(OC)/ 2667/ 2400/ 2133 ECC & non-ECC, un-buffered memory

- AMD Ryzen series CPUs (Raven Ridge) support DDR4 3200+(OC)/ 2933/ 2667/ 2400/ 2133 non-ECC, un-buffered memory

- $99.99

- NewEgg

1. HDD (Hard Disk Drive or Solid State Drive)
   1. Do you require any special Hard Disk Drive features (based on your answers to the above questions)?

- No I wouldn’t need any special HDD only the basic is fine.

* 1. Provide an example of a high-end HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- AMD Promontory B450

- Supports 105W Water Cooling (Pinnacle Ridge); Supports 95W Water Cooling (Summit Ridge); Supports 65W Water Cooling (Raven Ridge)

- AMD Ryzen series CPUs (Pinnacle Ridge) support DDR4 3200+(OC)/ 2933(OC)/ 2667/ 2400/ 2133 ECC & non-ECC, un-buffered memory

- AMD Ryzen series CPUs (Summit Ridge) support DDR4 3200+(OC)/ 2933(OC)/ 2667/ 2400/ 2133 ECC & non-ECC, un-buffered memory

- AMD Ryzen series CPUs (Raven Ridge) support DDR4 3200+(OC)/ 2933/ 2667/ 2400/ 2133 non-ECC, un-buffered memory

- $314.99

- NewEgg

* 1. Provide an example of a basic HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features

- Cost-effective storage upgrade for laptop or desktop computers

- Store all your games, music, movies and more with up to 4TB of storage

- SATA 6Gb/s interface optimizes burst performance; 64MB Cache

- Seagate Secure models for hardware-based data security

- Instant Secure Erase allows safe and easy drive retirement

- $64.99

- NewEgg

* 1. What would be the least expensive Hard Disk Drive that meets your requirements? List the Model Number, Price, and Vendor Source.

1. - Add On Cards,PCI To USB 2.0 Card,PCI To 1394 Card,PCI-E To USB 3.0 Card,PCI-E 4X To 16X Card,PCI-E 1X To 16X Card,PCI-E To M.2 Card,PCI Raid Card,PCI-E Raid Card,Diagnostic Card,PCI-E - - Graphic Card To Exteranl Card,PCI-E To USB 3.1 Card,MINI PCI-E To PCI-ECard,M.2 SSD To PCI-E  
   - Note:This is Mechanical hard disk DOESN'T HAVE Nand Flash
2. - $46.11
3. - NewEgg
4. Removable Media (DVD / USB / Flash)
   1. Do you require any special Removable Media features? Explain what extra features are required for your PC application topic.

- My Computer can use a USB for extra storage for all the files I will be using in my office.

* 1. If so, List the Model Number, Price, and Vendor Source for any of these extra features.

- USB 3.2 Gen 1 High-Speed Transmission Interface

- Easy Thumb Activated Capless Design

- Graceful and Minimalist Design

- $5.99

- NewEgg

1. Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth)
   1. Do you require any special Network Interface features? Explain what extra features are required for your PC application topic.

- My Laptop would only need a Wi-Fi connection.

* 1. If so, List the Model Number, Price, and Vendor Source for any of these extra features.

- N/A

1. Monitor, Mouse, Keyboard
   1. Do you require any special Monitor, Mouse, Keyboard, etc. add-ons? Explain what extra features are required for your PC application topic.

- No. I do not need a special add-ons because it would be useless.

* 1. If so, List the Model Number, Price, and Vendor Source for any of these extra features.

- N/A

1. Portability / Mobility
   1. Will you be using your PC in one place, do you need some portability, or do you need a high degree of mobility? Explain the need for portability your PC application topic.

- For My business computer I would need high portability because that would be the computer I would take to my meeting or to my office. So portability is the most important for a business office computer.

* 1. Do you require a Desktop / Laptop / Notebook or other PC format?

- Laptop because a notebook only specifically supports google. i.e. google Chromebook.

* 1. How will this affect the cost of your dream machine.

- This would make my dream machine cheaper because it wouldn’t need a big PC around me.

1. Rank each personal computer component in order of priority (1-lowest, 10-highest) based on your research above. Each component must have its own priority number… no duplications.
   * CPU Processor Chip 1 2 3 4 5 6 7 8 9 10
   * RAM Memory 1 2 3 4 5 6 7 8 9 10
   * Graphics Card 1 2 3 4 5 6 7 8 9 10
   * Sound Card 1 2 3 4 5 6 7 8 9 10
   * Motherboard 1 2 3 4 5 6 7 8 9 10
   * HDD (Hard Disk Drive or Solid State Drive) 1 2 3 4 5 6 7 8 9 10
   * Removable Media (DVD / USB / Flash) 1 2 3 4 5 6 7 8 9 10
   * Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth) 1 2 3 4 5 6 7 8 9 10
   * Monitor, Mouse, Keyboard 1 2 3 4 5 6 7 8 9 10
   * Portability / Mobility 1 2 3 4 5 6 7 8 9 10

**Brochure**

Work individually to create a 4 page brochure according to the following guideline.

**Page 1 – Your Application Topic**

Describe your topic and the top PC components for your topic.

Include the following on this page:

* Describe your application topic and how a PC is used
* In general terms, describe what the best PC for this application would look like (e.g. speed vs portability)
* Describe in more detail the top three most important PC components and explain why they are important for your application

**Page 2 – Would-Be-Nice Features**

Describe your decisions about what PC components are less important but would be nice to upgrade if you had the money.

Include the following on this page:

* Describe the would-be-nice components (just below your top 3 priorities) and what your options for upgrading them would be.
* Describe the components / features at the bottom of your priority list and why you would not spend extra money on them.
* Provide some details about different vendors / suppliers and the options they offer.

**Page 3 – Your Budget Machine**

Your budget is $800. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you had to leave out because of budget limitations.

**Page 4 – Your Dream Machine**

Your budget is $2000. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you were able to spend extra on.
* Also comment on any priority components that you had to leave out or down-grade.

**Appendix A: PC Vendors, Parts, & Customization**

Suggested on-line computer sources:

* [www.newegg.ca](http://www.newegg.ca)
* [www.dell.com/en-ca](http://www.dell.com/en-ca)
* [www.tigerdirect.ca/](http://www.tigerdirect.ca/)
* [www.canadacomputers.com](http://www.canadacomputers.com)

**Appendix B: Application Topics**

|  |  |
| --- | --- |
| **Task** | **Student Name** |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |