

# College of Computer Training (CCT)

## Assignment Cover Page

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<b>Module Title:</b>	Computing Architecture
<b>Module Code:</b>	
<b>Assignment Title:</b>	Personal Computer Build Research Project
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**Academic Year:**      Year 1 ☒      Year 2 ☐      Year 3 ☐

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I, the above named student, confirm that by submitting, or causing the attached assignment to be submitted, to CCT, I have not plagiarised any other person's work in this assignment and except where appropriately acknowledged, this assignment is my own work, has been expressed in my own words, and has not previously been submitted for assessment.

## Table of Contents

Introduction.....	3
Components .....	4
Antivirus .....	5
CPU – Processor .....	5
CPU Cooler.....	6
Desktop Case .....	6
Keyboard and Mouse .....	7
Memory .....	8
Monitor .....	9
Motherboard.....	9
Operating System.....	11
Power supply.....	11
Software .....	12
Speakers .....	13
Storage .....	14
Video card.....	14
Tools .....	16
Electrostatic Discharge .....	16
Thermal Past .....	16
How to build it? .....	17
References.....	20

## Introduction

As a new desktop computer builder, some information had to be studied before even thinking of build the computer. Reading and watching a few tutorials, reviewing some of Michael's classes and material, and then even though I was not feeling prepared, I should start. So, let's get it started!

Although the building is a hard thing to do it is worth it and exciting to search and choose your own hardware, software, peripheral, and even better in the way that I wanted it done.

## Components

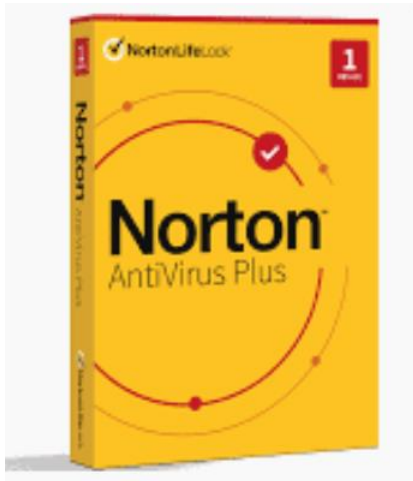
How to find the components that match with your idea and budget it is a mission and a decision not that easy.

Looking at one of the websites I searched – it will be referenced at the end – I saw a tip that was useful which was to check and use another website well-structured called “PC Part Picker” to build the computer desktop the way that was needed or wanted.

By that, I started to sort out what was my priorities in each component and how I would search for them by their qualities or characteristics.

## Antivirus

Norton Antivirus Plus. Powerful protection for your device and personal information.  
1 Year subscription.



The antivirus has been chosen by the cost-benefit. Price: €14.99.

## CPU – Processor

AMD Ryzen 3 3200G, PC processor, 3.6 GHz (maximum frequency: 4.0 GHz), 4 MB L3 Cache, AM4 socket, Radeon Vega 8 integrated GPU.



Processor



Processor packing

AMD Ryzen 3 has been chosen by the compatibility with the motherboard and high quality. Price: €174.94.

## CPU Cooler

Cooler Master MasterLiquid Lite 240.



Cooler Master has been chosen by the compatibility with the processor and by the cost-benefit. Price: €56.97.

## Desktop Case

Corsair 275R Airflow.



Desktop case chosen by the design and advantages of it. Price: €77.90.

## Keyboard and Mouse

Wireless keyboard and laser mouse compatible with Windows-based PCs.





Those items have been chosen by the ergonomic design and facility of buying them together. Price: €41.17.

## Memory

32GB G.Skill DDR4 TridentZ RGB 3000Mhz PC4-24000 CL16 1.35V Dual Channel Kit (2x16GB) for Intel Z270.



The dual kit of memory has been chosen by the capacity and capability of the motherboard. Price: €166.11.



## Monitor

Acer Screen LCD Monitor.



This component has been chosen by the cost benefit and quality. Price: €64.01.

## Motherboard

ASUS PRIME X570-PRO.



Motherboard



## Operating System

Microsoft  
Edition 64-bit.

Windows

10

Home



Program has been chosen by the popularity and good qualities that it offers to. Price: €99.99.

## Power supply

BQ Power Supply - EVGA 750.



Power supply

The power supply has been chosen by the quality, capability and cost benefit. Price: €69.16.

## Software

Microsoft 365 Personal. Office 365 apps and 1 year of subscription.



#### PREMIUM APPS



#### SERVICES



Program has been chosen by the popularity and good qualities that it offers to. Price: €41.17.

## Speakers

Logitech Z200 Multimedia Speakers, 10W Peak Power, Pair, Black.



Those items have been chosen by the ergonomic design and facility of buying them together. Price: €20.58.

## Storage

Samsung 970 EVO Plus 2 TB.



This Storage has been chosen by the capacity and capability of the motherboard. Price: €283.

## Video card

ASUS NVIDIA GeForce GT 710 Graphics Card.



This video card has been chosen by the capability and quality of the brand. Price: €49.79.

## Tools

### Electrostatic Discharge

Anti-static Wristband.



Price: €3.82.

### Thermal Past

Thermal Compound Paste.



Price: €5.93.



## How to build it?

After buying everything we needed and check if they are compatible, we can start building our machine... we might need some tools like Phillips-head screwdriver, or then a can of compressed air where you can remove dusts or fine debris from the pieces. Also, if you have a choice of building it in a room that the floor that is not a carpet, it would be good, static energy can damage your computer even before built.

Thinking of our safety we need to have the anti-static wristband worn around our wrist and the opposite side, the clip, must be attached somewhere on the desktop case. It is preferable to have an ample and clean space to do it.

Firstly, we must unpack all the components put them on the table or the work area keep their instruction manuals nearby in case we need it. Starting by the desktop case we need to open and remove the side panel, laying it down. Find the space that you will fit your Power supply, it has a hole where the “on/off” button will face out, which is usually located on the bottom or top corner, in the back area. In case of does not find the place, we can check the desktop case manual.

Leaving the big pieces besides, we will prepare our motherboard by installing our CPU, cooler, and RAM before we go back to the case. Beginning by our CPU we must open the socket and lift the lever to release the locking mechanism – check the manual in case of doubt, it is important to remember that you cannot touch the sides of your CPU get it by the corners and gently put it inside the socket. There are arrows in the socket and in the CPU showing you which is the right side to put it. After that we are going to stick our CPU cooler to our CPU already installed. Using our thermal paste, we will put a small amount of it on our processor, nothing bigger than a pea, and then we will line up the heat sink of the CPU cooler and screw it, connect the cables to the power supply.

Installing the RAM, it is not a big deal they are big chips that we will attach to the motherboard and the only information we need to know after the compatibility is which is the right direction to plug them, so we are going to open the clips and put it there.

To install the motherboard, it is necessary to see which is the right direction of our motherboard and case, checking once more our motherboard manual, and then work on it with our screwdriver.

The Video Card, as we already checked that it is compatible, we must connect its chip in the motherboard slots which is PCIe x1 – check the motherboard manual in case of doubt to find it – and connect it, we will hear a click noise by that. Also connect the cables from the power supply to our video card.

Our storage also needs to be installed, so as simple as it was the video card, knowing that it is compatible we just must find the slot that it fits and screw to fix it better.

Connect the power supply cables to the motherboard it is also not hard once everything is already connected, just to make sure we can see one more time our manual, but most of the times the pin connectors are in the same place.

The peripheral are not even hard, believing that every person that works on computers had at least once to connect one peripheral, also their manual shows which out put we must connect the cables or if it is wireless, we need to connect the wave shaped key frame.

And then, after double checking every connection, we can turn on our computer and install our operating system, antivirus, and software.

## Conclusion

Even with low knowledge about computer or pieces, engineers, with a vaster range of information we have on the internet and websites, we can build our own computer. It is not an easy work to do, but if you like building using your own hands, DIY and you are a curious person, you have the prerequisites to build it and have an happy end with a good computer.

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