|  |  |
| --- | --- |
| **DEPARTMENT OF CHEMICAL ENGINEERING** | UP_FC_3lang_EBIT_Eng |
| TEL: -27-12-420-3020  FAX: -27-12-420-5048 | Pretoria 0002 Republic of South Africa  http://www.up.ac.za |
| E-Mail: johan.labuschagne@up.ac.za |  |

10th February 2019

Dear Sir / Madam

**THE ACQUISITION OF PERSONAL LAPTOPS/TABLETS/SMART PHONES AND POCKET CALCULATORS**

The Department of Chemical Engineering prescribes access to a laptop computer as a requirement for all students from the 2nd semester of the first year.

Since access to and use of smart phones, tablets, e-readers and laptop computers are becoming standard practice, it will be appreciated if you could consider helping your bursar(s) in the acquisition of their own device(s). At minimum the Department expects a student to have his/her own laptop computer, since this will enable access to e-books, internet, UP-based repositories, prescribed software, etc.

**Apparatus:**

- Preferably a 15.6” Laptop Computer with Intel i5 or i7 CPU

- 802.11a/b/g/n -enabled (preferably a/b/g/n/ac) WLAN and Gbit LAN and Bluetooth-enabled

- At least 4 GB RAM Memory

- Disk Drive > 500 GB HDD or > 256 GB SSD

- Display resolution of 1440 x 900 or above (with VGA or HDMI or display port out)

- Sufficient USB ports (e.g. 3 or 4) for printer & mouse & flash disk

- 16 x DVD Multi Writer

- Mouse

- Carry bag

- > 8 GB USB Memory Stick

- Printer (confirm cost of printer vs cost of cartridges)

**Software:**

- At least the Windows 7 (64 bit) operating system. Please note that the Windows 10 operating system is current.

- Word processing, Spreadsheet & Presentation combination (eg. MS Office or Office 365, or Office 2016 but there is a strong drive to use open access software, e.g. the Open Office suite of software)

**Pocket calculator:**

For some modules of the first year, the only prescribed pocket calculator is a non-programmable calculator like the **Casio** fx-991es PLUS or fx-570es PLUS or the newer fx-991ex or fx-570ex or **SHARP** EL-W516 for use in tests and exams where programmable devices are not allowed.

With a good laptop and the advent of smart phones and tablets, a recommendation regarding programmable pocket calculators is difficult. It is recommended that students follow market trends and only purchase programmable pocket calculators and the like, once they are sure they know what they need.

Your assistance is appreciated.

PROF FJ Labuschagne

ACTING HEAD: DEPARTMENT OF CHEMICAL ENGINEERING

UNIVERSITY OF PRETORIA

DEPARTMENT OF CHEMICAL ENGINEERING

**PURCHASING OF PERSONAL COMPUTERS (2019**)

When purchasing a Laptop computer, the following should be considered:

**Minimum configuration:**

- Preferably a 15.6” Laptop Computer with Intel i5 or i7 CPU

- 802.11a/b/g/n -enabled (preferably a/b/g/n/ac) WLAN and Gbit LAN and Bluetooth-enabled

- At least 4 GB RAM Memory

- Disk Drive > 500 GB HDD or > 256 GB SSD

- Display resolution of 1440 x 900 or above (with VGA or HDMI or display port out)

- Sufficient USB ports (e.g. 3 or 4) for printer & mouse & flash disk

- 16 x DVD Multi Writer

- Mouse

- Carry bag

- > 8 GB USB Memory Stick

- Printer (Laser preferable)

It is imperative that the basic operating system software (including manuals and/or DVD's) be purchased with the computer. The current operating system is MS Windows 10, but MS Windows 7 is fully acceptable. Please ensure that the quoted price for the PC includes a valid license for the operating system and any other software uploaded on the system.

Expansion of the abovementioned basic configuration will depend on own requirements and availability of funds and may include the following:

1. CPU with a faster clock speed (be careful for processors other than Intel)
2. Larger hard disk drive (make sure that the read/write speed is high enough. Minimum: 14 ms). Samsung, Seagate, Western Digital, Toshiba are reliable brand names.
3. Sound card and loudspeakers – usually part of the standard configuration
4. Graphics card with 3D-capability.
5. Additional RAM-memory – probably the first additional requirement (upgrading from 8GB RAM)
6. DVD-writer with accompanying software and ability to read/write CD’s as well.
7. An almost standard required accessory would be a USB-“Memory Stick”. (with 8GB and higher storage capacity)
8. Depending on the quality of printing required, and the available budget, one of the following can be considered:

* Ink jet printer – Typical Hewlett-Packard and Canon. (Make sure of the cost of replacement of ink cartridges – running cost of the printer)
* Laser printer – Typically Hewlett-Packard or Canon

**SUPPLIERS:**

There are many suppliers in Pretoria. Competition is strong – always ensure that you purchase from a reputable dealer who will also be able to provide efficient after-sales support.

**SOFTWARE:**

Most suppliers offer software to bona fide students at special rates. Make sure that you enquire about these possibilities.

The following software is used:

* A combination package like MS Office (latest version is MS Office 2016 for 1 user or MS Office 365 for several users) comprising of MS Word, MS Excel and MS PowerPoint. Please take note that Open Access software can also be downloaded at no cost, e.g. the Open Office suite of software.
* Programming language: The current Open Access Software suite, Python, is the medium of instruction for programming purposes, replacing Octave. Matlab (The Mathworks), a licensed software package can be obtained by the local agents at a special tariff for students, but is not a compulsory requirement.