Required software and brief installation guide for the ACSE MSc course

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1 Foreword

Laptops are provided in their original box, which means you are responsible for installing them and using them according to College information security regulations (`https://www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/policies-regulations-and-codes-of-practice/information-security-/policy/it-resources/`). In particular, you are responsible for installing and configuring the appropriate security software (`https://www.imperial.ac.uk/admin-services/ict/self-service/be-secure/`).

2 List of required software

Here is a list of software that you need to have installed on your laptop for the first four modules of the course. [1]

- Windows 10 64bit Pro, Enterprise or Education Editions (1607 Anniversary Update, Build 14393 or later) OR OSX El Capitan 10.11 or later OR Ubuntu 16.04 LTS or later (other unix based systems will probably be fine as well provided you know how to use them)
- Anaconda (python 3.6 version)
- Firefox or Chrome
- Docker
- git
- Putty and WinSCP

3 GitHub account

The GitHub platform will be widely used throughout the course, both to distribute material and to host your assignments. You will need a `https://github.com/` account throughout this MSc programme. Even if you already have a personal GitHub account you will need to create a new one using your Imperial College email address as your contact email and your username must follow the template:

[1] In some cases, alternatives to our recommended solutions exist, but usually require more knowledge to maintain and might require some tweaking for some modules examples. Therefore, if you choose to not follow our recommendations, it is at your own risk, and no formal support will be provided.

`acse_<Imperial College username>`

For example, if your Imperial College username is **gjg19** then you should create an account with the username:

`acse_gjg19`

This account will be used for all assessments in the MSc. If you submit an assessment from any other account then we will not know who you are!

4 Installation guide

4.1 Start-up

You are free to install the laptop however you want. We strongly advise declining to use your Microsoft account (either College one or personal one) for now and create an **offline** account. You can use the username you want, provided it fits in College regulations.

Please do not install standard operating system updates during the IT clinic hours, as they can require several long reboot cycles.

4.2 WiFi

The WiFi network you should connect to is "Imperial-WPA" with your Imperial username (username@ic.ac.uk or ic
username) and password.

4.3 Windows 10 Education

Licenses are provided for free for Imperial College students. Check your licence in Settings -> System -> About. If it is Windows Home Edition, upgrade to an Education Edition:

- Go to `http://www.onthehub.com/microsoft-windows-10-education-for-students/?utm_source=ms-student-page&utm_medium=microsoft-site&utm_campaign=windows10`
- Get a licence key (select "Imperial College London" as School and "Imperial College London - Microsoft Imagine Premium" as Department)
- Do not download the disk image (.iso file)
- Go in windows settings -> System -> About -> Upgrade your edition of Windows
- Type in the licence key
- Follow instructions and reboot

4.4 Anaconda

Anaconda distribution is a python distribution with a lot of pre-packaged libraries. Download and install should be straightforward from this page: `https://www.anaconda.com/download`. Be careful to select the 64-Bit Python 3.6 version.

4.5 Docker

Docker is a containerization software that we will use to distribute some codes that do not natively run on Windows. It can be downloaded from this page `https://docs.docker.com/docker-for-windows/install/`. Follow the sign up and installation instructions above. If virtualization has been disabled in your computer's BIOS, you may need to reenable it (`https://bce.berkeley.edu/enabling-virtualization-in-your-pc-bios.html`). This may require rebooting your computer.

4.6 git

Git is a version control software that will be widely used throughout the course. The windows version can be downloaded and installed from `https://git-scm.com/download/win`. If asked for a default text editor and you know none of the options, choose nano.

4.7 Putty and winSCP

These two utilities allow you to connect to remote computers. Installation is extremely straightforward from `https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html` and `https://winscp.net/eng/download.php`.

4.8 Web browsers

A significant amount of course material will be delivered through Jupyter Notebooks, which are run in a web browser. Jupyter Notebooks may not work properly with Microsoft IE or Edge. Therefore it is recommended to use either Chrome or Mozilla Firefox on Windows. `https://www.google.com/chrome/` `https://www.mozilla.org/en-GB/firefox/new/`

4.9 JupyterHub

A cloud-based solution for running Jupyter notebooks will be used in some lectures. Please log-in once at the following address and confirm it worked by the end of the week. `https://ese-jhub.westeurope.cloudapp.azure.com/`

4.10 Windows Subsystem for Linux

The Windows Subsystem for Linux (`https://docs.microsoft.com/en-us/windows/wsl/about`) might be an alternative to using Windows versions of the previously mentioned software. However there is no guarantee it will work for all the lectures and projects, and it is therefore not recommended except for recreational exploration.

5 Other useful software

The following software will be useful later in the course:

- Microsoft Office for admin purposes (licence provided by the College, `http://www.imperial.ac.uk/admin-services/ict/training-and-resources/microsoft-office-365/`)
- LaTeX, to write scientific reports (`https://www.latex-project.org/get/`)
- Paraview (`https://www.paraview.org/download/`)
- Slack, for team work (`https://slack.com`)

5.1 Antivirus

Windows 10 comes with built in antivirus software called Windows Defender. It is turned on by default, updates automatically and scans files as you use them. Imperial College uses Symantec Endpoint Protection. If you would prefer to use that, then:

- Go to `https://www.imperial.ac.uk/ict/services/software/shop/index.asp` and login with your College username and your College password.
- Click on Select and Download Software > Anti-Virus.
- Tick the box next to AntiVirus for Windows > Accept > Accept > Complete Order.
- Follow the instructions in the e-mail you receive to install Symantec Endpoint Protection for Windows.

5.2 Microsoft Office

- Go to `https://www.imperial.ac.uk/office365` and login with your College username@ic.ac.uk and your College password.
- Click on the ẅaffleïcon in the top left corner of the browser window and then on Office 365.
- Click on the Install Office apps button on the top right of the browser window, and then Office 2016.
- Click on Run (or Save) to being downloading the installer. Once complete, click Yes to start installing.
- Once the install is complete, login to Office 365 with your username@ic.ac.uk credentials.

5.3 OneDrive sync client

The OneDrive Sync Client, which comes with Windows 10, lets you connect and synchronize files from your College OneDrive for Business to your laptop. We recommend that you store your documents on OneDrive for Business as you can access them easily from any device and they are backed up in the cloud. More info available about One Drive available at `http://www.imperial.ac.uk/admin-services/ict/self-service/connect-communicate/office-365/features/onedrive-for-business/`

5.4 AppsAnywhere

- The Software Hub provides you with access to lots of free software.
- Go to `https://softwarehub.imperial.ac.uk` and login with your college credentials.
- Click on It's my first time using AppsAnywhere on this device. Let's go – to download the AppsAnywhere client.
- Run the downloaded program, and then accept all the defaults.
- AppsAnywhere will automatically launch and install the Cloudpaging player, if required.
- Go back to your web browser and on the Software Hub page click on Done.
- If prompted, click Allow to let your browser interact with the AppsAnywhere client.
- The AppsAnywhere client will open and, once validated, you are ready to launch applications from the Software Hub webpage.
- Hover over an application and click on Launch, Download or Visit Website.

Things to Note:

- Large applications can take a while to launch, especially when you run them for the first time. A slow internet connection can also impact the time it takes to launch. Be patient. The player will show you the progress.
- The software runs just like it would if it was installed on the machine. So it uses the local hardware such as the processor, memory, and hard disk. Therefore if it's running slowly, it could be due to the hardware spec of the machine you're running it on.
- You can run the software on any campus computer. So if, for example, you're at South Kensington, you can logon to the machines in the Central Library, click on the Software Hub link on the desktop, and you'll be able to run your software from there.
- You can run the software though Application Jukebox on any personal machine. This is useful if you have more than one machine.

6 Getting Help

If you need any help, please contact the ICT Service Desk:

- Online: `https://imperial.service-now.com/ict/`
- By phone: +44 (0)20 7594 9000