

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.

If you do not already have one, create a GitHub account (<https://github.com/join>). In order to create private repositories (where you can store your assignments without making them visible to others), apply to the student github status:

<https://help.github.com/articles/applying-for-a-student-developer-pack/>.

Send us your GitHub username so we can give you access to course material.

¹In 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.

4 Installation guide

4.1 Start-up

You are free to install the laptop however you want. We advise declining to use your microsoft account (either College one or personal one) for now. You can use the username you want, provided it fits in College regulations. The WiFi network you should connect to is "Imperial-WPA" with your Imperial username (...@ic.ac.uk) and password.

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

4.2 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 - Microsoft Imagine Premiumäs 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

4.3 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.

4.4 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 reenale it (<https://bce.berkeley.edu/enabling-virtualization-in-your-pc-bios.html>). This may require rebooting your computer.

4.5 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.

4.6 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>.

4.7 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/>

4.8 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/>

4.9 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 programmes

The following programmes will be useful later in the course:

- Microsoft Office for admin purposes (licence provided by the College)
- LaTeX, to write scientific reports
- Paraview
- Slack, for team work