Recommendations for student IT equipment: home and college use

Introduction

This document has been written in the summer of 2020 to address specific requirements of pandemic-time teaching and learning. The documents aims to support students with advice on IT and AV equipment, particularly to use the centrally supported software for online learning - Canvas, Panopto and Microsoft Teams. It provides equipment recommendations, best-practice on using the software options, and advice on set-up.

Recommended equipment

A computer

A laptop or desktop computer, either Windows or Mac, is the preferred equipment. Although tablet computers and smartphones can run standard web browsers and Microsoft Teams applications, the small screen and keyboard are generally limiting when working online and with documents for long periods. Linux can also be used on a laptop or desktop.

It is generally a good idea to consider a mid-range model with adequate memory (RAM) and plenty of USB sockets. Cheaper models tend to have poor battery life and should be avoided. A good independent review site is Which - https://www.which.co.uk/reviews/laptops/article/laptops-forstudents.

If your subject involves specialist applications that need a lot of computing power you may wish to purchase a higher spec laptop, or alternatively your department is likely to have a computer suite which you can use.

A webcam

Laptops and some monitors have a built-in camera, otherwise we recommend the **Logitech** range – ideally the **Logitech C920 / C920s** or **C922** (~£80+ approx.). Note that some models may be unavailable but similar models are functionally fine. Alternative well-known models include **Razer Kiyo** or **Microsoft Lifecam Studio.**

A microphone and set of headphones, or a combined headset

A built-in laptop microphone may suffice, provided the laptop is close to you and the laptop fan is not running at high speed during the meeting. Otherwise an external microphone on a headset would be better. Webcams also come with built-in microphones. It is worth testing and checking using your computer's sound control panel which sound source you are using as default and which sounds better.

Headphones offer advantages in online meetings as it helps the software reduce echoes, it's easier to concentrate on the sound, and it makes the call less prone to feedback. For long sessions at home it is best to purchase DJ-style headphones that cover the ears rather than the tiny earbud types

which are more suitable for on the go. Good headphone brands include Sony, JVC and Panasonic. An affordable option is **JVC Foldable Headphones (Model HAS160A).**

A headset with a microphone is an alternative option, combining a meeting microphone and a set of headphones**.** It's best to purchase a headset that offers a reliable wired connection to the computer, rather than Bluetooth connections that might rely on batteries. An inexpensive model is the **Logitech H340** or **H570e** wired headset. Alternative models include the **Razer** headset range popular with computer gamers. Though audio quality of these headsets can be variable on the cheaper models, the overall quality on better models should be reliable and consistent.

These headsets are also extremely useful for online Teams Meetings and Zoom calls home as using headphones increases the quality of the call experience particularly if using a laptop, tablet or phone and in noisy environments. When used for calls, as the microphone is very close to the mouth, careful placement of the microphone stem is required to avoid harsh sounds.

A list of headsets suitable for both Teams and Panopto can be found here: https://www.microsoft.com/en-gb/microsoft-365/microsoft-teams/acrossdevices/devices/category?devicetype=36

If you do need to purchase an external standalone microphone then the desktop USB microphones such as the **Blue Yeti Nano USB** (£99) or **Rode NT-USB** (£100 approx.) or **Samson Meteor USB microphone** (£150), are recommended for personal use.

A mobile device

Email and other forms of digital communication are central to both academic and social life at Oxford. You'll often be notified of changes to rooms or tutorial times by email, and many social events are organised through Facebook. So, you will probably want to have a smartphone or other digital device to hand during the day.

Some students take their laptops out and about with them, while others prefer to keep them in their rooms. All libraries have plugs where mobile devices can be charged and used.

Additional accessories

Make sure you bring all the adapters and power supplies you need and make sure you have plenty of chargers and phone cables. If you are still unsure of what IT to take to university and whether you need to buy anything beforehand, consider going to university with a very light load. This will make certain you don't buy anything useless – after all, it will be just as easy to buy what you need once you're settled in and you can ask for advice from your college IT staff. Here's a short checklist:

- Mobile phone cables and charger(s)
- Electrical extension cables aka 'gang sockets' (more handy than you might imagine)
- USB memory sticks (for backing up important assignments)
- SD/microSD storage cards for camera or tablet

Software

Two related sets of centrally supported teaching systems that are accessed through a standard web browser with your University username and password are:

- Canvas – A Virtual Learning Environment (VLE) - used for online course activities
- Panopto – Online Lecture recordings - accessed through Canvas

These web systems don't require you to download any additional software. For online tutorials, conferencing calls and meetings the University centrally supports the Microsoft Teams application, again linked to your University username and password. Although Microsoft Teams can run through a web browser the experience is much better and more reliable by downloading a standalone application. Teams is a free download, and is available for both desktop, tablet and phone (Mac/PC/Linux). (https://www.microsoft.com/en-gb/microsoft-365/microsoft-teams/downloadapp)

Using Microsoft Teams for meetings

To ensure your microphone and camera are set up correctly for using Microsoft Teams we recommend checking your settings and make a test call - select your profile picture then choose *Settings* > *Devices*. Choose **Make a test call** under **Audio devices**.

In a test call, you'll see how your mic, speaker, and camera are working. Follow the instructions from Test Call Bot and record a short message. The message will play back for you. After that, you'll get a summary of the test call, and you can go to your device settings to make changes.

In a Teams meeting you have a main toolbar that appears if you rollover the bottom of the screen – this has all the main options for your video and audio. It's generally best to mute your microphone during a meeting if not speaking as this makes to call better for everyone. Equally you can turn off your camera if you want and this helps in very low bandwidth calls or if the application is giving you a warning that the network quality is poor. You can also turn off the incoming video of call participants and just use audio, this again will help conserve bandwidth if you're experiencing dropouts in video or audio.

General Tips & Notes

Webcam: Whether you are using a USB webcam or the built-in webcam on your laptop, as far as possible try to make sure that the camera lens sits at or slightly above eye level, no higher than your hairline. If you are using a built-in webcam on a laptop placed on a table, you may need to place it on a stand to make it higher. Ensure any support is sturdy to avoid camera shake when you tap the keyboard. Do not sit with your camera facing a window or with a window directly beside you as your face will be silhouetted. If using a tablet or phone purchase a stand or try and prop the device up to keep the image stable.

Microphone: Do not place your microphone close to your computer if the fan noise will be picked up. Try to sit or stand within 0.5m of the microphone. Use your OS sound settings to ensure input volume levels are high enough, but not so high as to cause distortion. Using a carpeted space will help to improve sound quality and reduce echo, conversely talking in kitchens or tiled laboratory rooms will cause unnecessary reverberation. If using a headset microphone, try to position the microphone stem to the side of your face to avoid pops and speak slowly, clearly and at a steady volume, perhaps regularly checking people can hear you ok.

Laptop: It's a good idea to restart your computer every day. This can often improve the memory performance and makes glitches less likely to happen. Online video sessions can be

processorintensive so use a laptop stand to allow airflow beneath the laptop to avoid overheating and related fan noise. Keep the computer away from direct sunlight.

Network connectivity: Try to make your wireless connection as fast as possible by reducing activity on your machine – for example don't try and do large downloads at the same time as a Teams meeting.

Lighting: All cameras capture better-looking video when there is a good light source. The room should be well-lit with natural light where possible. When selecting a place to make a call, avoid locations with low light or too much backlighting (avoid windows in the background as mentioned above). If a location with ample natural light is not available, you ideally want to light yourself from the front with soft, indirect light, and minimise other lighting in the room.

Links to further information

Getting started and IT help from IT Services at Oxford University https://help.it.ox.ac.uk/

Email help line for IT at Oxford University help@it.ox.ac.uk

Microsoft Cloud Service - called Nexus 365 at Oxford - includes Microsoft Teams guidance https://help.it.ox.ac.uk/nexus365/index

Canvas VLE for students guidance https://www.ctl.ox.ac.uk/canvas-for-students

Version 0.9b – https://help.it.ox.ac.uk/replay/equipment