Video Conferencing / Resolving Basic Technical Issues

This document focuses on personal staff and faculty device configuration in order to resolve the following common issues:

1. Participants cannot hear what we, as teachers or presenters, are talking
2. Participants cannot see us as our video signal is not showing up
3. Participants experience significant background noise or echo

We assume you already updated your operating system and the selected client software (Zoom, Teams, etc.) to the latest version and have proper internet connection.

Audio Settings for the Operating System

We need to make sure that our microphone is turned on, a proper input level has been set and in case we would like to use external devices, we need to select the device we intend to use for our call. It is the best if we set this up for the operating system and for the client software too so we will definitely hear all in-meeting and OS sounds when using a pair of headphones, for instance. (However, it is possible to do it else-how, by setting up audio in the client software only.)

MacOS - Using internal devices: // Jump to Windows

Go to System Preferences / Sound / Input tab, select the Internal Microphone = Built-in device, raise the input volume slider, speak clearly and loudly to test your levels with the input level indicator. If the indicator shows incoming signal we can go ahead and set this up in our client software too.
MacOS - Using external devices:

Please make sure you have connected your external device (USB headset, webcam, microphone or audio interface) to your computer. Go to System Preferences / Sound / Input tab, select the external device. If it is an external interface you will need to set the input level on the device itself. When using USB headphones/webcams instead, you might still be able to adjust the input volume slider and test levels under System Preferences.

Windows - Select between internal or external audio devices:

You can reach these settings via: Start menu / Settings / System / Sound or: Task bar / right click on the Volume icon / Open Sound Settings.
Audio and Video Settings for Zoom and Teams

Steps to configure Zoom under MacOS or Windows:

Once you are logged in to your Zoom client software on your computer please navigate here: profile icon / Settings / Video then select and test the appropriate device.

In order to adjust audio settings please select the Audio menu item, select the right audio device, set its levels and test its quality. In case you are not happy with the sound quality you may set a specific level of background noise cancellation. Please note, if using such a noise reduction filter you will need to speak loud enough to prevent the software from cancelling words that are not loud enough.
Steps to **configure Microsoft Teams under MacOS or Windows:**

We would recommend all faculty and staff to install the desktop version (the client software) of Microsoft Teams instead of just using the web-application version within your browser. The desktop app supports more features (like the *Teams Live Event* feature) and performs better when the presenters’ screen has to be shared or when IT colleagues request remote control over your machine, during a call.

Once the Teams client has been installed and you are logged in with your CEU email address and the corresponding Microsoft password please select the **profile icon** in the top right corner of the app and select **Settings**. Under **Devices** you may select the right audio device, the outputs and inputs, make a test call and select the right video source under the **Camera** section.
Background Noise or Echo

In order to avoid background noise or echo in your calls please find our most relevant recommendations below:

• Use a headset / a headphone-microphone combo or a web-camera if possible, especially if your device has pure quality built-in microphone or camera.

• In case you have a separate microphone and a pair of speakers attached to your computer, please make sure that they are not too close to each other and that the speakers are not too loud. If your speakers are too loud your partners will hear themselves back with latency through your microphone. If you are alone, please use a headset as this is the best option to isolate yourself from your environment and it keeps the microphone in a steady position from your mouth.

• Find a room where you will not be distracted by others or external noises. As acoustics matters, avoid large, empty rooms, or halls with wet acoustics as it would introduce echo in the call.

• Conference software, like Zoom, can help you with smart algorithms to reduce background noise. If necessary, please test and use these features.

• In case your hardware is really old you might want to purchase a new one. It will support the latest operating systems, serve your goals with a faster processor, SSD storage, network card (higher upload and download speeds are supported), faster memory, and a more quality built-in sound-card. Old sound-cards can have noticeable self-noise. Moreover, if your device's fan is turning to the end of its lifecycle, its mechanical and/or electronic noise will be picked up by the old sound-card.

• In case you are contented with the performance of your present computer but not with its sound quality we are happy to recommend suitable equipment with which it can be extended (you can reach us via the following email address: classroomsupport@ceu.edu or call us on ext. number: 6000). Possible options can range from cheap to more expensive solutions. The price is in relation with the audio quality but you should avoid the “toy category” and purchase equipment that has good reviews or something we can recommend. The spectrum from cheap to more expensive is the following:

- USB headset
- USB Webcam (it includes a camera and a microphone, preferably has full HD resolution) + a pair of headphones
- USB microphone + a pair of headphones
- Handy recorder (it is equipped with two microphones and can act as an audio interface or as a mobile recording device - you can transfer files via USB cable or memory card) + a pair of headphones
- Audio interface + phantom powered (directional) condenser microphone + a pair of headphones

Tablets and phones use their built-in microphones and cameras and they are quite reliable. However, you might still want to use a wired or wireless headset to provide better experience for your audience.

For our detailed preparatory-, in meeting- and Zoom related advices please visit the following SharePoint site and read through its three subpages: https://ceuedu.sharepoint.com/sites/itservices/SitePages/vc_land.aspx