

*How to Do:*

## Professional recording with OBS - Technique tutorial

Brief overview:

OBS, or Open Broadcasting Software, is an application that allows the possibility of fast and easy recording from a camera, screen or specific applications. OBS can record locally, produce live streams, and can also be used as a virtual camera. The advantages of OBS compared to e.g. Zoom are that recordings from multiple sources are possible at the same time and also multiple sources can be shown at the same time. OBS is also particularly suitable for recording asynchronous events. In the following, the advantages will be explained in more detail. This is followed by a guide to setting up and using OBS. This is followed by a complete guide to setting up a typical lecture using OBS.

### Specific help: Advantages of OBS

Recording from multiple sources simultaneously	<ul style="list-style-type: none"> <li>- Be it applications, browser windows or cameras, OBS can capture an unlimited number of sources in a scene. For example, if you have two cameras, one can capture you while the second shows, say, a piece of paper for you to write on</li> <li>- The sources can also be made visible or invisible at any time</li> </ul>
Scenes	<ul style="list-style-type: none"> <li>- You can create scenes in OBS that show different sources. For example, one scene shows only the camera, another shows the camera and PowerPoint, and a third shows the Internet browser. This way you can quickly and easily switch between facilities during the meeting</li> </ul>
Local recording with selected properties	<ul style="list-style-type: none"> <li>- Recording Zoom meetings is both legally and technically problematic. You may record the names and voices of participants without their permission. In addition, the zoom recording is determined by the Internet connection or the zoom server, which means that Internet interference can greatly reduce the quality of the recording.</li> <li>- With OBS you can record the scene locally on your computer, and as long as you do not capture the meeting itself (with participants) in the scene, you can easily capture both your image and the presentation</li> <li>- Recording asynchronous events</li> </ul>
Virtual camera	<ul style="list-style-type: none"> <li>- OBS can also be used as a virtual camera. This means that everything seen in the selected scene will be sent as a "camera" to other applications (like Zoom). So you can select the OBS virtual camera in the Zoom settings, where everything captured by OBS will be sent directly to Zoom</li> </ul>

### Specific help: Setting up OBS - Installation

1.	Enter "OBS-Studio" in the search engine and click on the first link. Download OBS for your operating system and install the application.
2.	After installation open OBS-Studio and start autoconfiguration
3.	If you want to use OBS only as a virtual camera, select the appropriate option. If you want to use recordings beyond that, select "Optimize for recording". Attention. "Streaming" does not need to be selected, as this refers to services such as Twitch/YouTube/Facebook.
4.	Click "Next"
5.	Select the base resolution. It is recommended to select the resolution of your screen (to find out, right-click on your desktop > Display Settings > Select Screen > scroll down to "Screen Resolution").
6.	Set FPS. FPS stands for frames-per-second, a higher number ensures a smooth image with fluid movements at the expense of computing resources. If you have a weaker or old computer, 30 is a good choice. (All configurations can also be changed afterwards).
7.	Click on "Apply settings"

### Specific help: Set up scene

1.	Click on the "+" button in the "Scenes" window.
2.	Name the scene (can be changed later)
3.	Add a source to it: In the "Sources" window, click "+".
4.	Here you can see a list of all possible sources from which to choose: <ul style="list-style-type: none"><li>- Audio output recording: audio from the computer, everything you hear is recorded by OBS</li><li>- Audio input recording: audio input to the computer, this usually means your microphone</li><li>- Image: an image file, like jpeg, png etc.</li><li>- Window recording: as in Zoom, you can record any open window. When the window is closed, the source is no longer shown.</li><li>- Media source: a video or audio file will be played with it</li><li>- Video capture device: this means cameras that send images to the computer (webcam)</li></ul>

### Specific help: setting up a typical lecture

A typical lecture requires a camera, a microphone, and the lecture slides. Open OBS Studio. First, insert your microphone. The microphone should be visible in the Audio Mixer window. The audio should be between -20 and -10dB- If you notice that your audio is getting too into the red, you should reduce your microphone level. This can be adjusted either in the System Settings (see the Microphones tech tutorial) or directly in the Audio Mixer (for OBS only), by moving the sliders down.

Once your camera is inserted into OBS you will see your image in the preview window. You can easily resize the image here:

- By clicking on one of the corners the image can be scaled

- By holding down "Alt" on the keyboard and clicking on one of the squares, the image can be cropped

- By holding down "Shift" on the keyboard and clicking on one of the squares, the image can be warped

If your camera also has a built-in microphone, make sure that only one audio track is recording and the other is muted. This can be done by clicking on the speaker icon below the respective source.

The last step is to add the slides. The selection of the source for the slides is determined by their format. PDF files can be easily recorded via window recording, while PowerPoint presentations only work via screen recording:

#### Add PDFs:

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| 1. | Add a window capture and assign a name (OBS searches for windows with similar name as the source)  |
| 2. | Select or check the window that OBS has selected   |
| 3. | (optional) cut the image to size<br>If the window is smaller than the canvas: <ul style="list-style-type: none"><li>- Click with the right mouse button on the window</li><li>- Click on transform</li><li>- Adjust the window to your screen size</li></ul> |

#### Add PowerPoint presentations:

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| 1. | Add a screen capture and assign a name (if you have more than one screen connected)     |
| 2. | Choose your screen  |
| 3. | If you now go to the presentation, it will be forwarded to OBS                          |
| 4. | Here you have to make sure that everything presented on your screen is picked up by OBS |

Since OBS works with a layer principle, the camera image is covered by the slides with the above steps. To see the camera image again, the corresponding source must be dragged upwards.

In order to transfer the scene that has now been set up to Zoom, you must now start the virtual camera in OBS. To do this, open a meeting in Zoom. Everything that can be seen in the scene will be visible as a picture in Zoom.

Attention! Here only the video will be transferred, the sound will run normally over the source selected by Zoom.

Attention! Windows can only access a camera with one application. If you still want to show your camera picture in Zoom, you have to follow 2 steps:

1. create a new scene in OBS with only the camera (or microphone if you want to record the scene locally) inserted
2. close OBS and only then select the camera via zoom (can also be done during a meeting)

A disadvantage of this method is that the slide show will run over the camera image in Zoom. This means that the changes of the presentation in Zoom will not take place (it will remain the small tile, and will not switch to full screen mode as usual, e.g. when the screen is split). You

should tell your viewers to select the speaker view to see the speaker's image in large format. For this, the viewers should pin you, otherwise the image will change as soon as someone else speaks.

