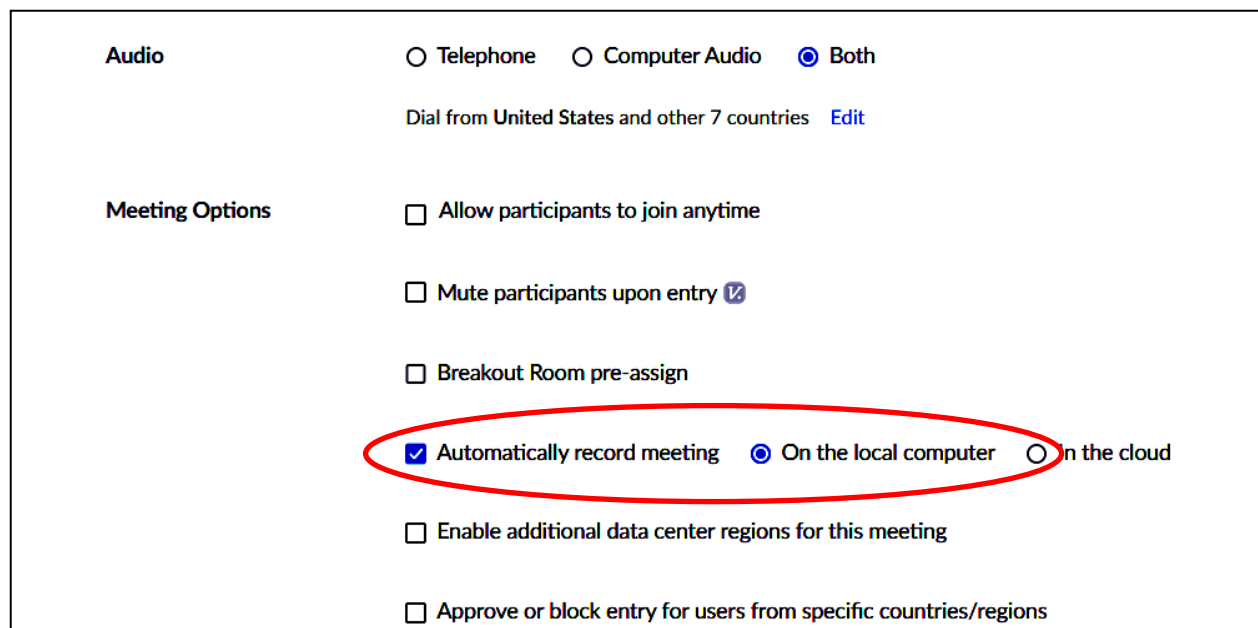# Hints for Recording Lectures while Teaching In Person

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When we're teaching in person, it can be very advantageous to record our lectures at the same time for the benefit of students unable to attend because of Covid and other reasons. Doing so is fairly straightforward. All of us already are used to teaching with Zoom at home, and many of us have recorded our lectures at the same time, using the Zoom "record" function, for later posting on Compass or Canvas or whatever platform each of us is using. This probably is the most straightforward method for also recording our in-person lectures, albeit with a few twists. But before getting to that, let's recapitulate recording, downloading, and editing at-home lectures on Zoom for those who have not yet been doing this, or who have been using another method for recording lectures, such as with Powerpoint. And note that the Zoom guidelines given here are the same for PCs and Macs, but the platform-specific guidelines are for PCs, not Macs. The general principles remain the same, but for Mac-specific material you'll need a Mac specialist.

Recording a Lecture on Zoom

When you login to Zoom and click on "Schedule a Meeting," you get a screen with a bunch of menu items. One of these is "Automatically record meeting" (see image below). If you click this button, Zoom will start recording as soon as you start a meeting." The advantage of this is that you won't have to begin recording manually (something that in the rush of getting started is easy to forget to do).

If you have not set up the session to record automatically, when you begin your class meeting you will need to remember to click on "Record" at the bottom of the screen: after you do so, it then will say "Pause/Stop Recording" (see image below). Be sure that the "recording" light (upper left corner in image below) is on when you think that you're recording.
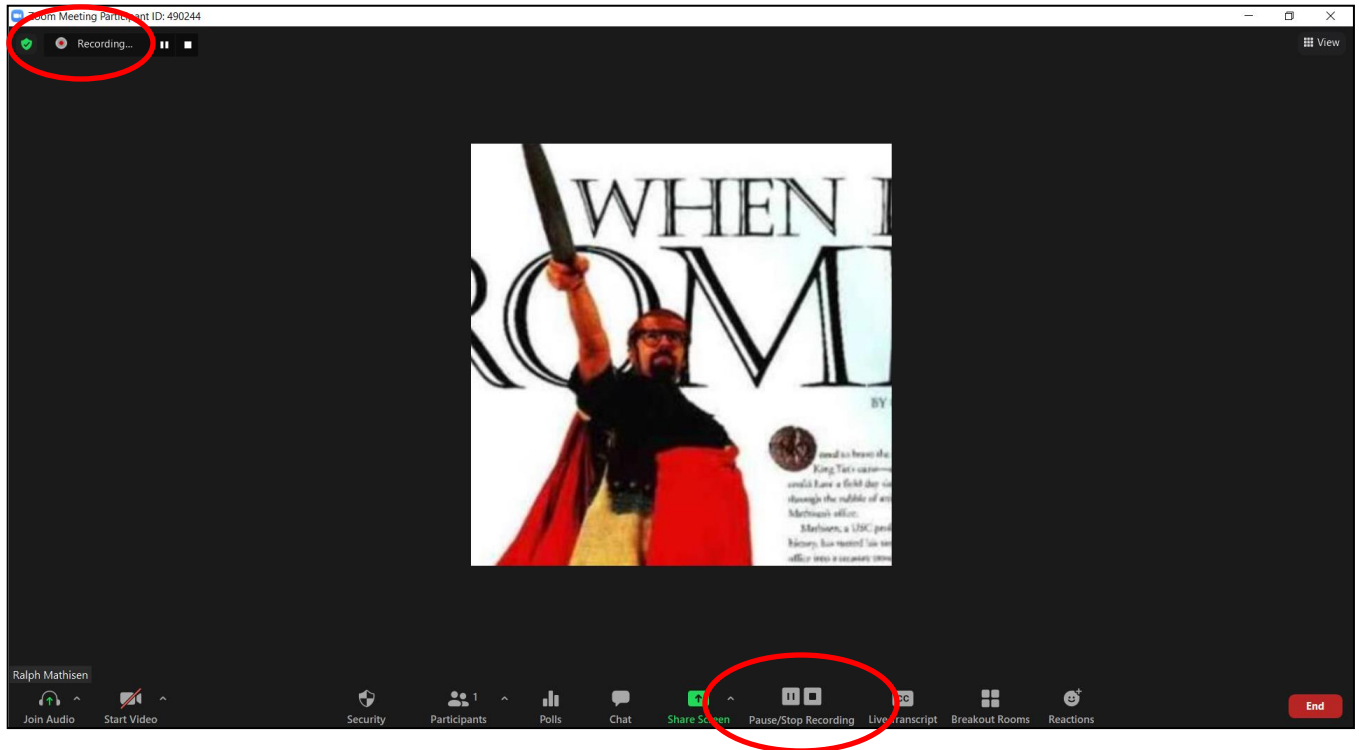
Finding Your Zoom Recording

When you end your Zoom lecture, Zoom will automatically download the recording either to the "cloud" or to your own computer. I recommend, as seen in the first image above, that you download it directly to your computer. This will give you immediate access to it, and will not require an additional step requiring you to download it from the "cloud" in order to be able to share or edit it. If you download to your computer, the raw recording of the lecture will be stored in the *"Zoom" subdirectory* of the "Documents" directory (see image at right). If Zoom asks you where you would like to store the recording, that would be a good place to put it.
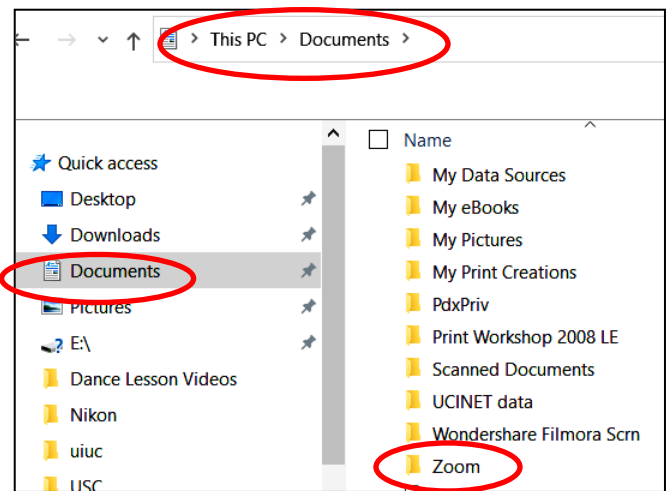
Trimming Your Zoom Recording

If you are doing automatic recording, the beginning of your class recording also will include the dead time before lecture and any preliminary chatting you did before the actual class began. You might want to "trim" this material from the beginning of the lecture recording before you post it. You also may want to trim any post-lecture chatting or dead time. Doing this should be fairly straightforward. If you already have a video editor that you're familiar with, just use that. If not, here's an easy procedure for doing it using "Photos", a photo and video editing program that comes bundled with many PCs (like Dells).

Go to the *"Zoom" sub-directory* we just discussed and find the sub-directory that includes your video (it'll have whatever name you gave to that meeting along with the date the recording was made: see image below). Along with the "Chat" file and an audio file, the sub-directory will have the raw recording of your lecture with the name "zoom_0.mp4". You might want to left click on it and begin to play it (be sure your speaker is on) just to ensure that it is what you think it is. If you started and stopped the recording manually, or you just want to use the raw automatic recording as is, you can just rename it to anything you want and copy it to Compass or whatever. But if you want to trim it, right click on "zoom_0.mp4" and in the resultant menu (see below) click on "Open with." In the next menu click on "Photos." If "Photos" does not appear, hopefully there will be another video editing program there that you can use.
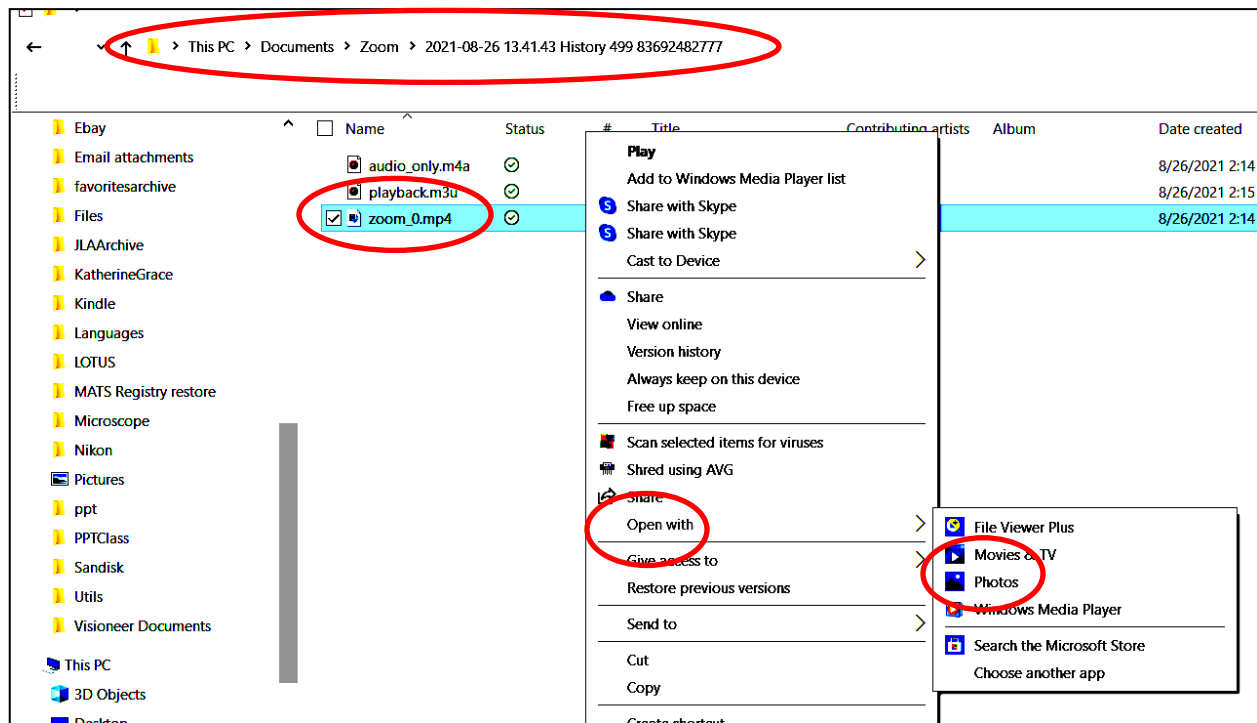
Assuming that you do have "Photos" installed on your computer, your video recording will load and start playing, as seen here:
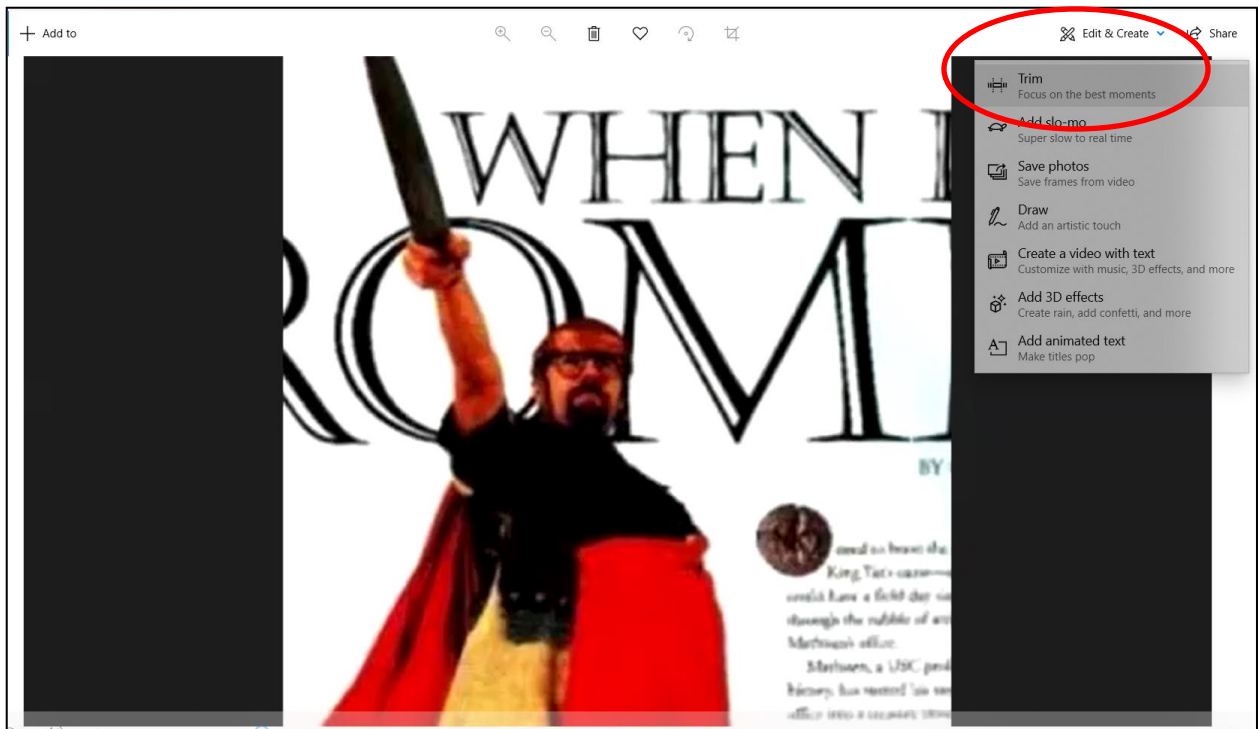
Once you're in "Photos," at the top right there will be a menu item "Edit and Create." Click on it. The first menu item will be "Trim", as shown here. Click on that.

Hint: In older versions of "Photos" you won't have the upper menu, but if you right-click, an icon called "Trim" will be appear the bottom right hand corner. Click on it.

You now will be in "trim mode," looking like this.

To "Trim" a video, first click the "play" arrow. Then position the blue pointer (seen above) to the point you want the trimmed video to begin and pause the video. Note the time stamp. Then move

the left margin white ball to the same time stamp. Press the play arrow and move the blue pointer to the point you want the trimmed video to end. Press pause. Note the time stamp and move the right margin white ball to the same time stamp. Then click on the "Save as" button in the top right corner. You will be asked to rename the file. Do so. At the top of the screen you also will need to specify the directory where you want the trimmed recording to be stored. Don't forget to do this. If you don't change the directory, the trimmed video will end up in whatever random directory you happened to be in at the time, and you may never be able to find it again! It may take a while for the trimmed recording to be stored. Counter-intuitively, the trimmed video file also may be quite a bit larger than the original raw video file. This is normal. Go to where you stored it and play it to make sure everything worked correctly (on rare occasions, the trimming process can get fouled up and you will need to do it over). Now you can store it to Compass or whatever you're using.

Recording a Lecture on Zoom in the Classroom

So far so good. But how about recording a Zoom lecture in an in-person classroom? That's not quite so straightforward. For one thing, both Zoom and computer projection need to be going on at the same time (they work fine together). We also need to remember to use Zoom share screen if we show a Powerpoint. In addition, when we recorded a lecture at home, we were seated in a fixed position about 16 inches from the computer microphone. You might have noticed even then that if you moved away from the computer, you lost sound quality. Same thing in the classroom. If we're recording a lecture using the computer mike, we have to stay locked at the same distance from the mike. It's doable but its not a natural way to teach (at least not for me), and no matter how careful we are, the sound quality can be pretty bad. And anyway, most of us like to move around some. For good sound quality, and to be able to ramble about, we need to add an external mike.

Adding an External Mike

There are two kinds of external mikes, wireless and hard wired.

Wireless Mikes

We could use a bluetooth wireless mike. I've done it. It's a bit complicated as it requires configuring, synching, and re-synching. Wireless mikes also can cut off at inconvenient times. They are subject to screeching feedback if students have their cellphone/ipad/cellphone microphones and speakers turned on. They pick up the person with the mike clipped on very well, but not ambient discussion around a room. And they are expensive, retailing at around $135 (although I found mine for $55). If, in spite of these caveats, you would like to use a clip-on wireless mike, you might want to look at these.


(1) SabineTec Smartmike
https://www.sabinetek.com/products/smartmikeplus

(2) Amazon
https://www.amazon.com/SabineTek-SmartMike-Microphone-Rechargeable-Cancellation/dp/B082HW6MZB

Wired Mikes

A better bet, I suggest, which doesn't have these problems, is a wired condenser mike, the kind we put in the middle of the table when having a Skype meeting. There are lots of very inexpensive line-in condenser microphones on the market in the $10-$15 range. This is the one I got. For a similar one, do an Ebay search on "Professional Audio Condenser Microphone Mic Studio Sound Recording Tripod Stand". *Hint: best to buy from a US seller as anything coming from overseas can take a long time to arrive.*
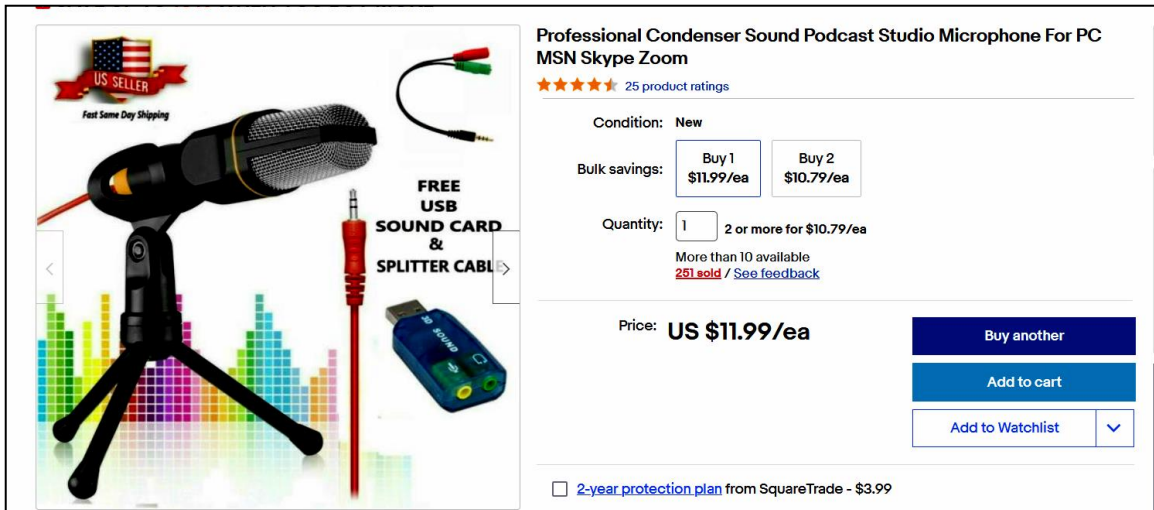
These are plug-and-play. No configuration or synching needed. Plug it into the line-in jack on your laptop, usually located next to USB port(s). If you have two jacks, be sure to use the line-in (microphone) jack, not the line-out (earphone) jack. The operating system should automatically detect it, name it (here "**Realtek Audio**"). and add it to the list of microphones in the "Recording" section of the "Sound" panel in the Windows "Control Panel" found in "Settings" in the Windows left menu panel, as seen here.
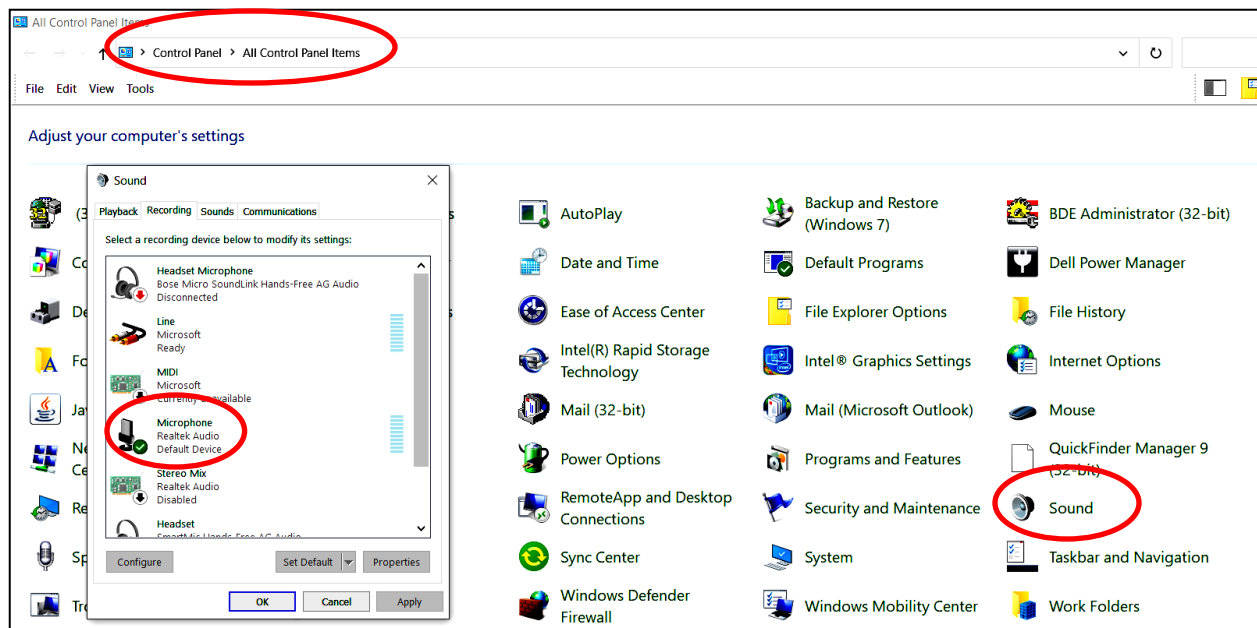
To use the external mike in a Zoom recording, when your Zoom session begins, click on the up arrow next to the microphone icon at the bottom left of the Zoom screen (as seen here). Under "Select a Microphone" choose whatever the designation of your microphone is (it will be same as the name assigned in the "Control Panel" above, in this case "**Realtek Audio**"). Under "Select a Speaker" be sure *not* to choose the same name as your microphone. "Same as System" usually is the best choice. Zoom also will let you test the mike and speakers (see image) to make sure both are working. It's a good idea to do that.

The "Realtek" external mike I use works really well, and with little distortion, picking up voices from up to 30 feet away, allowing classroom discussion to be included in the recording. If you do use a wired external mike, just be careful not to trip over the cord as you traipse around the room.

One also can borrow stand-alone microphones for the semester from Technology Services by using this form: https://forms.illinois.edu/sec/503286756?referrer=https://shibboleth.illinois.edu/

Hint: To avoid feedback, any students who are following on Zoom during class will need to turn the volume of their speakers to zero and mute their mikes unless they're speaking (just like when we're lecturing from home).

Remember: The procedures for using Zoom, and the procedures for storing, downloading, and editing recorded Zoom videos, are exactly the same as for lectures recorded at home, as discussed above. The additional steps for doing it in-person are: (1) Remember to turn on the computer projector at the same time you start Zoon (I've spent half an hour lecturing to an empty slide screen because no one told me I hadn't turned on the projector!), and (2) add an external mike that will free you from being tied next to your laptop and provide good sound quality.

If anyone has any questions, comments, or advice please let me know. Likewise if anyone would like a personal demo of any of these procedures: every laptop has its own little ways!