

# HYBRID LEARNING INSTRUCTIONS

## Software/Hardware Requirements

\*More details given at the end of this document.

### Software

- Microsoft Teams (on laptop and on phone)

### Hardware

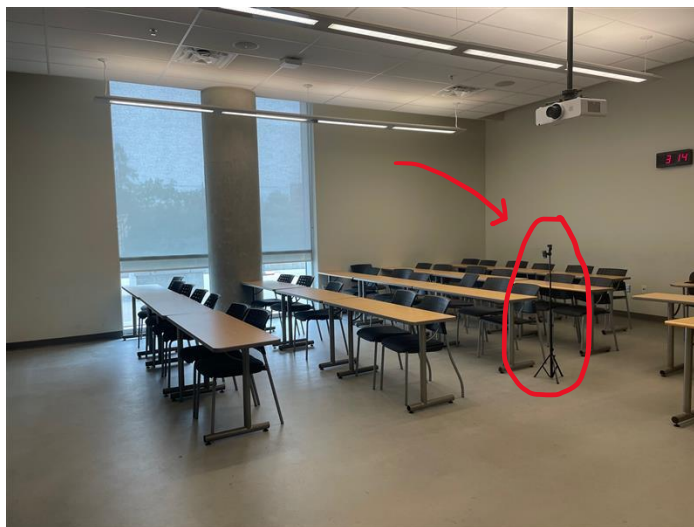
- Laptop
- Phone
- Tripod (>50" for placing on floor, )
- Bluetooth Earbuds with Microphone
- Portable charger or extension cord
- Appropriate AV adaptors for all devices.
- Optional: writing tablet, iPad, or other digital writing device

## Setup Instructions

This just covers the extra steps for setting up and hosting a hybrid class. Details on how to set up and run a Teams call can be found at <http://mechfaculty.mcmaster.ca/onlinemat/> along with other relevant online teaching resources.

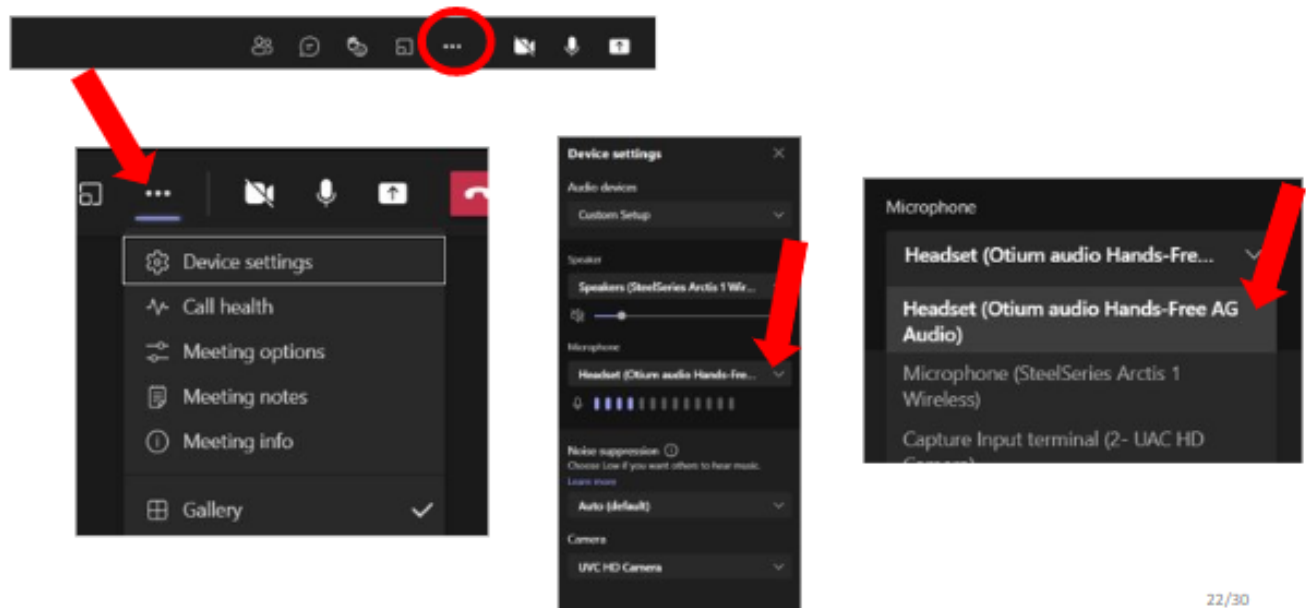
### **General set up** for all lecture styles

1. Power on laptop and open teams and any other required documents / software (i.e. PowerPoint, OneNote etc.)
2. *Optional: Connect laptop to classroom projector if you are planning on sharing media.*
3. Connect wireless earbuds and microphone to laptop using Bluetooth settings. Turn of noise canceling / turn to transparency mode. If you have a neck strap on earbud you can wear them around your neck.
4. Set up tripod in a location that can clearly see the board. Make sure it does not block in person students view or walkways.

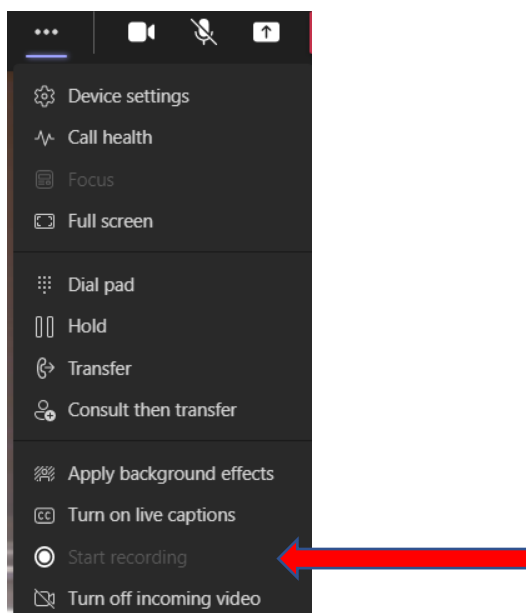


*Example: ETB 126. Camera and Tripod are placed in the center of the room 5-8 meters from the board.*

5. Begin teams call from laptop.
6. Change microphone settings so that you are using your earbuds microphone rather than your laptops.
7. Change speaker settings so you are using your laptop speakers rather than your earbuds.



8. Join teams call from your phone. Make sure your camera is turned on and streaming. Place phone in tripod and double check that the board is in frame. You may have to move it or adjust through the class.
9. Ensure that the phone is connected to a charger or power source, live streaming drains battery quickly.
10. Begin recording lecture.



11. Begin lecture. Remember to be aware of what the virtual students can see (i.e. what is in frame, writing size, etc.). You should check your laptop often for questions sent to the chat or have a in person student volunteer to monitor the chat. A second option is to just encourage virtual students to unmute and ask questions.

Extra steps for **sharing media via projector**.

Note: this is for an overhead connected to laptop, not transparency projector. For a transparency connector just make sure what is being projected is in frame of the camera)

12. Open up what you want to be projected and begin projecting.
13. From teams begin sharing your screen.



14. Virtual students are able to click between the video from the camera and the content being shared.
15. The recording will only record what is being screen shared. If you are writing on the board at the same time as projecting students watching the recording will be unable to see what is written. If you are just projecting a problem and then writing solution on board, stop sharing your screen at some point so the solution can be seen in the recording.
  - You can spotlight either your shared screen or your video feed. Whichever is being spotlighted will be given priority and is what will be recorded.

Extra steps for **using a writing tablet**.

*For Wacom tablet:*

16. Insure appropriate drivers are installed and the tablet is calibrated before class.
17. Plug tablet in and begin writing on OneNote, PowerPoint, Word, or other software.

*For touch screen tablet or laptop*

18. Make sure you are sharing your screen on this device. If it is an extra device (not the laptop you're hosting the meeting on) join the call from this device and begin sharing your screen, then move to a relevant app to begin writing.

For **just screen sharing** (not using blackboard/whiteboard), do not set up tripod/phone (ignore step 4 and 6). Host meeting purely from laptop. Make sure you are connected to a projector so in person students can see content.

## Best Practices

- Make sure only one speaker is on and only one microphone is unmuted in the room. If more than one is on there will be feedback/static.
- Consider what all students can hear and see.
- Make sure virtual students are included in the conversation.
  - Consistently monitor the chat or have a student volunteer monitor the chat and notify you if someone asks/answers a question.
  - Make sure your speakers/volume is loud enough so that when virtual students speak you can hear them.
  - When a student (virtual or in person) asks a question to make sure you repeat it back. This confirms that you heard the question clearly and helps all students hear what was being asked.
- Be considerate at the distance and angle at which you placed the camera.
  - Further away captures a larger image but you must write larger to be seen clearly.
  - Closer up captures a smaller image but you can write smaller.
- Test everything in advance
  - Practice setting up and hosting the meeting.
  - Practice writing to see what shows up best on camera.

- Record yourself so you can better see what the student sees (and hears)
- Polling / in class quizzes
  - If you post a poll on teams it will appear in the main channel. In person students can open the channel on there laptop or phones and answer the call.
- Set expectations early and clearly explain how the class will run.
  - Let virtual students know how the class will run and how they can fully engage and participate.
  - Encourage the in-person students to help facilitate conversation with virtual students. They may also be able to help move the camera so virtual students can see better.
- Text and writing size.
  - To be seen on camera your writing should be at least 15-20 cm tall (larger is better). Use high contrast colors and if using white board, the markers should be fresh and in a dark color.

## Detailed Equipment List:

- **Laptop**
  - Minimum requirements: i5 (5<sup>th</sup> gen) Processor, 8GB memory, 128 SSD and 512 HDD
- **Phone**
  - Any phone in good condition with a working back facing camera released after 2018.
- **Tripod** (provided by department)
  - Must have ability to hold phone.
  - Should be higher than 50" if placing on the floor, can be shorter.
  - [Amazon: UBeesize 50" Phone Tripod Stand, Aluminum Lightweight Tripod for Camera and Phone](#) \$19.99
  - [Amazon: Cellphone stand for desk](#) \$8.99
- **Bluetooth earbuds with Microphone** (provided by department)
  - [Amazon: Otium Headphones Bluetooth Waterproof Sports earbuds](#) \$32.99
  - [apple airpods](#) \$219



- **Portable charger / extension cord**
  - [Amazon Portable Charger](#) \$39.99
- **AV adaptors**
  - This is dependent on your device, a list of recommended adaptors to have can be found at <https://library.mcmaster.ca/spaces/cct>