NOTE: This document applies to general purpose classrooms supported by [ITS Classroom Hotline](https://hotline.unc.edu/public/). If you are teaching in a professional school or department-managed classroom, check with your internal IT support team about how to use the classroom technology.

Configuring Classroom Technology for HyFlex Mode

In synchronous course sessions where both in-class and remote students are participating at the same time (e.g. [HyFlex mode](https://keepteaching.unc.edu/modes-of-teaching/#modes)), enabling interaction between the two groups of students can be challenging. The primary issue is allowing for remote students to hear the remarks of in-class students.

In preparation for the fall semester, more than sixty general purpose classrooms are being upgraded with additional technology to facilitate that interaction. Ceiling microphones make it possible to capture student voices, regardless of where students are sitting in the classroom. Point/tilt/zoom (PTZ) video cameras can be controlled by the instructor to provide a wide shot of students in the classroom and a close-up of the instructor.

This document walks instructors through the process of configuring the classroom technology in three different types of classrooms: 1) those outfitted with both ceiling microphones and PTZ cameras, 2) lecture halls outfitted with PTZ cameras, 3) and classrooms that offer only document cameras to capture in-class remarks.

**Classrooms with PTZ cameras and ceiling microphones**

Classrooms outfitted with ceiling microphones and point/tilt/zoom (PTZ) cameras facilitate the widest range of interaction between in-class and remote students. Both instructors and students depend on the ceiling microphones to capture their voices. Keep in mind that all student conversations may be audible when the ceiling mics are on. HyFlex courses will be scheduled in these classrooms to the greatest extent possible.

**Classroom type: Small to mid-size classrooms
PTZ cameras: Yes**[**Web tutorial on using PTZ cameras**](https://www.youtube.com/watch?v=UxJlgL3EZYM) **Ceiling microphones: Yes
Instructor microphone: No
Document Camera: Yes**

**Basic-setup instructions:**

1. Select Computer on touch panel screen:
2. Send Computer to desired displays
\*\*If using a room with multiple displays it is possible use an “Extended” display by sending Computer (1) to a display and Computer (2) to the other display. In Zoom, you’ll need to select Use Dual monitors under Settings. See the Hotline’s [Dual Displays Tutorial](https://www.youtube.com/watch?v=C77bBqqFCrQ).
3. Select desired camera from Camera button on touch panel
4. Log into classroom computer
5. Sign into Zoom and launch desired meeting or start a new meeting
6. Ceiling Microphones can be muted from the Touch Panel.

**Classrooms with PTZ cameras**

Ceiling microphones cannot be installed effectively in large lecture halls with high ceilings and instructor movement and handheld microphones are not currently an option in a socially-distanced classroom. As a result, it may be difficult to capture the remarks of in-class students. Instructors may need to depend more on repeating and paraphrasing student questions and comments. They may also consider using an open back channel (e.g. chat or polls) to solicit and monitor in-class student questions and comments.

**Classroom type: Large lecture halls
PTZ (point/tilt/zoom) cameras: Yes**[**Web tutorial on using PTZ cameras**](https://www.youtube.com/watch?v=UxJlgL3EZYM) **Ceiling microphones: No
Instructor microphone: Yes
Document Camera: Yes**

**Basic-setup instructions:**

1. Select Computer on touch panel screen:
2. Send Computer to desired displays
\*\*If using a room with multiple displays it is possible use an “Extended” display by sending Computer (1) to a display and Computer (2) to the other display. In Zoom, you’ll need to select Use Dual monitors under Settings. See the Hotline’s [Dual Displays Tutorial](https://www.youtube.com/watch?v=C77bBqqFCrQ).
3. Select desired camera from Camera button on touch panel
4. Log into classroom computer
5. Sign into Zoom and launch desired meeting or start a new meeting
6. Turn on lavalier (clip-on) microphone verify connected audio in Zoom

**Classrooms with document cameras only**

In classrooms that are not outfitted with ceiling microphones and PTZ cameras, the classroom document camera can be used to capture the remarks of instructors and in-class students. The microphone is in the head of the camera, so proximity is important. Those further from the camera will need to speak loudly, clearly, and one at a time. If you plan to use the document camera for video, you will need to adjust it to the desired direction and angle.

**Classroom type: Small to mid-size classrooms
PTZ cameras: No
Ceiling microphones: No
Instructor microphone: No
Document Camera: Yes**[**Web tutorial on using document cameras**](https://www.youtube.com/watch?v=Tc0Ti315iIU)

**Basic-setup instructions:**

1. Select Computer on touch panel screen:
2. Send Computer to desired displays
\*\*If using a room with multiple displays it is possible use an “Extended” display by sending Computer (1) to a display and Computer (2) to the other display. In Zoom, you’ll need to select Use Dual monitors under Settings. See the Hotline’s [Dual Displays Tutorial](https://www.youtube.com/watch?v=C77bBqqFCrQ).
3. Turn on document camera located on the podium
4. Rotate camera head to display yourself, the class or any hand-written content, use the rotate button on the camera remote if image appears upside down
5. Log into classroom computer
6. Sign into Zoom and launch desired meeting or start a new meeting