# TECHNICAL BRIEF
HYFLEX LEARNING

CCSU is implementing two modalities for Fall 2020 classes. These models involve a fully online "remote" experience or a "HyFlex" solution. Remote learning is well understood and mimics what the university implemented in March 2020. HyFlex is a new modality that combines the best of both worlds, providing students the opportunity to learn in the classroom or fully online in the same class. Both models leverage the same Blackboard Learning Management System to serve as the "academic spine" of the curriculum and allow modular content to be delivered on-ground or online as determined by current conditions.

Existing Tools:

CSCU currently provides four primary tools which assist with online learning and can be adapted to a HyFlex model for supporting anywhere, anytime, learning.

- **Blackboard Learn 9:** learning management system with class calendar, content organization, threaded discussions, and assessments.
- **Blackboard Ally:** ADA-compliance tool enabled within all Blackboard Learn course shells that works with your uploaded course content to automatically provide alternative formats and detailed feedback to increase accessibility on materials.
- **Kaltura :** Online video platform and player for audio and visual materials. The suite includes Kaltura Classroom, Personal Capture, MediaSpace and seamless integration with Blackboard Learn. ADA compliant machine captioning is also available to users.
- **Cisco WebEx, Microsoft Teams, and Blackboard Collaborate:** supports synchronous delivery with video conferencing capability.
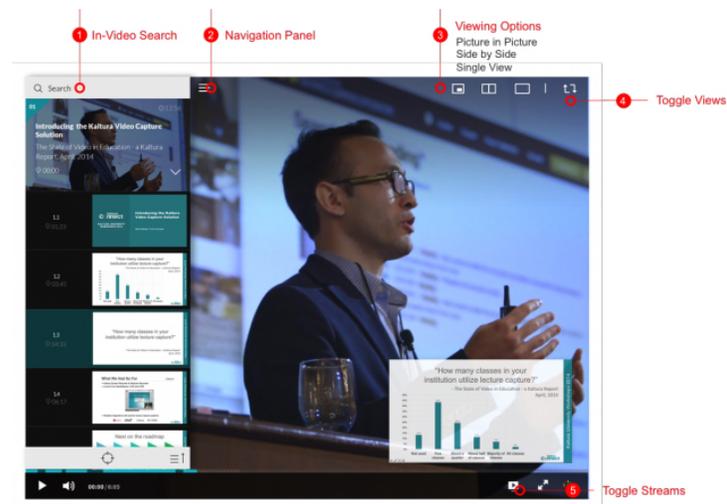
HyFlex Learning, the Crossroads of Technology, Academics, and Safety:

HyFlex, is a flexible hybrid model that allows courses to be delivered simultaneously in-person and online, using lecture capturing and broadcasting capabilities within classrooms. Although this type of course design is not new, it is emerging as a popular option for many within higher education (https://er.educause.edu/blogs/2020/5/educause-covid-19-quickpoll-results-fall-planning-for-education-and-student-support).

It is important to note that within a HyFlex environment technology becomes an integral component of the day-to-day experience for students, faculty and staff. The support mechanisms needed to maintain the highest level of technological success require on-ground support staff, adjustments to infrastructure, retraining, and rethinking. While the system offers significant synchronous tools, the transition to HyFlex will require the addition of "Lecture Capture" technology.

HYFLEX LEARNING:

Learner and Faculty Engagement: All classes will be scheduled in a space that is equipped with Kaltura Classroom software that is set to automatically broadcast the day's lesson. Faculty can shut this off and use alternate products if they feel another product better meets the pedagogical needs of the class. The interaction with live remote learners will be at the discretion of faculty. Similar to traditional teaching, the classroom offers many tools that the instructor can use at their discretion. Faculty have the choice to use the tools that provide sound pedagogy relative to their teaching style, subject matter, and needs of their students.

Faculty may choose from the following options, the tools that best meet their classes pedagogical class:

- A traditional lecture (similar to a fully on-ground class) limiting interaction to designated times via WebEx, Microsoft Teams, or Blackboard Collaborate
- Lecture with added student engagement via persistent chat room tools can be instructor monitored or a physical student designee to serve as the spokesperson for online audience questions.
- Broadcast and record lectures via Kaltura Classroom for either live consumption or later playback and ADA accessibility
- Video conferencing lectures (with or without recording) using WebEx, Microsoft Teams or Blackboard Collaborate providing a synchronous experience within the classroom.
- Lecture capture for recorded video playback, storage with Kaltura MediaSpace and option to post to Blackboard.
- Document or specialty cameras designed to support close-up or zoomed lab requirements.

Throughout the summer, the University constructed several rooms that were intentionally engineered to support different styles of learning. Based on faculty and staff testing in the pilot rooms, real-time "face-to-face" interaction is discouraged in a HyFlex environment given delays with student bandwidth (delays were experienced both in the receipt of content on the students end and the submission of questions and answers on the instructor side in addition feedback from microphones could be distracting). Based on faculty and student feedback the following HyFlex classroom set-ups are available on campus:

4 Large Rooms: Large spaces such as Welte Auditorium and Willard 121 are designed for classes that require a higher density of in-person students. These spaces will provide excellent lecture style broadcasting using Kaltura Classroom, recording and captioning with student and faculty interaction via chat tools or remote polling tools in real-time.

35 Traditional Classrooms: Classrooms in each academic building are outfitted with auto tracking cameras, microphone arrays, and displays. Cameras follow instructor, capture whiteboard drawings and equations and allow for in-class close-up demonstrations. These spaces include existing technology, such as classroom PCs, podiums, projectors, and screens augmented with microphone tiles that can capture audio from lecturer and in-person student conversations. Engagement with remote students via real-time chat and polling tools.

Mobile Carts: There are 10 spaces which have smaller cart systems that offer two-way synchronous class teaching or remote learner video-based engagement. These spaces range from a Molecular Biology lab to a dance studio. Ultimately instructors may need to move a small audio/video cart through a space to provide "close up" pictures and video of lab work to support remote learners. These carts can support basic presenter capture or be used to support real-time synchronous learning via WebEx, MS Teams, or Blackboard Collaborate.

Micro Carts: Specialty presentation only devices which offer an ability to be used in small spaces. These are best used as "broadcast" stations, designed to send one-way audio, video, and close-up broadcasts to remote learners.