



Minimum Requirements for a Successful Distance Learning Course

HARDWARE Requirements:

The videoconference equipment that is necessary to connect with our systems must comply with the H.323 videoconference standards. All models of Polycom videoconference equipment comply with these standards. Tandberg equipment is sometimes not able to connect properly, and so we do not recommend this brand of equipment, but may work just fine. Specific models of Polycom codecs that work well are:

VSX 5000
ViewStation MP
VSX 7000
VSX 8000

YES Institute videoconference systems are designed to be compatible with the ITU H.323 videoconference standards.

- * H.323 – Packet-based multimedia communications systems
- * H.225 – call control protocol
- * H.235 – security
- * H.245 – media control protocol
- * Q.931 – digital subscriber signaling
- * H.450.1 – Generic functional protocol for the support of supplementary services in H.323

We use a Polycom VS4000 with various cameras and wireless microphones, document cameras, DVD players, Multi-media presentations, and PowerPoint shows.

Additional areas to make your videoconference the best possible:

The Room

A facility that is used to accommodate meetings, rather than a formal instructor/student model for classes, and seats no more than 25 people is optimal.

Lighting

The best lighting for videoconferencing is diffuse fluorescent. It is important to minimize shadows and to create an evenly lit environment. To maximize the appearance of skin tones and to minimize shadows, use lights with a color of 3500 Kelvin and ensure illumination of participants' faces are between 500 and 700 lux (vertical). Additionally, do not use low energy fluorescent lights that operate between 30 and 50 kHz. These lights can interfere with the proper functioning of wireless keypads used for system operations.

Ideally, the room should not have any exterior windows. If it does, they need to be covered with room darkening drapery/blinds.

Decor

The best decor is plain and simple. Keep the area within the camera's view uncluttered. Extraneous objects such as mirrors, artwork, plants, and fans cause the video compression algorithms to expend large amounts of processing resulting in less efficiency and reduced video quality. The best wall color is a neutral non-white color, such as light grey, light blue, or beige. Avoid wall treatments with patterns. These also can cause undo strain on the video compression system.

Acoustics

Audio quality, as opposed to video quality, is one of the most important factors to a favorable videoconference experience. One item of particular concern is reverberation - the effect of sound reflecting off of hard surfaces. One of the best ways to minimize the effects of reverberation is to coat floors, ceilings, and walls with sound absorbing material. In addition to minimizing reverberation it is also helpful to isolate the room from external noise sources such as fans and duct

work from heating and cooling systems, water pipes, office machines, telephones, and street noise.

Microphone placement is also an important factor influencing audio quality. The microphones need to be installed so that they are at least six feet from the systems loudspeakers. Microphones should be placed at least ten feet from each other. A microphone cannot be farther than seven feet from a speaking participant to ensure maximum audio quality.

Room Type/Furniture Layout

If a conference table is used, it could be a "U" or "V" shape to ensure equal access to the camera for each participant. The table should not be wider than 12 feet or longer than 24 feet in order to accommodate the requirements of the microphones. There should not be more than 25 feet from the camera to the farthest participant to ensure visibility. If no table is used, then the seating should be laid out so that all participants can be seen in the camera's room view, and microphones should be amongst the participants so as to abide by the above suggestions.