



INDIANA UNIVERSITY

CLASSROOM VIDEO ORIGATION INDIANA UNIVERSITY, BLOOMINGTON

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DEFINITION

This classroom type supports the use of interactive video for teaching and learning. It will originate audio and video to be sent to a remote site, and will receive and display content from that remote site. This room is typically a medium to large size room and functions as a traditional classroom. It has the typical infrastructure requirements for a standard technology classroom such as power and conduit for projector and lectern. It also has the following additional requirements to support video origination. Control systems will be sufficiently user friendly to enable operation by the instructor or an assistant. Professional staff will not be required to operate the systems.

The classroom system will capture live video of participants in the room, as well as transmit content such as document camera, and computer video. Cameras will capture live video of the teaching area and the audience, with at least one designated area for audience feedback. Display systems will allow users to see both outgoing video signals, local display from document camera, etc., and video signals from remote sites. Microphones will allow for audience participation. Local audio will have a mute function.

Videoconferencing address locations will be both pre-programmed through central scheduling systems and manually managed from the room. Room systems will be permanently installed, and all user equipment will be available with minimum setup.

SPECIAL ROOM REQUIREMENTS

Architectural

- Minimum of two mounted camera locations Generally a camera location at the back of the room focuses on the teaching station and a location at the front of the room focuses on the audience. Depending on size and shape of room, additional camera locations of either type may be desirable.
- Camera and microphone coverage should provide for at least one designated location for audience participation. Depending on size of room, additional locations may be desirable.
- Location of cameras should facilitate optimum camera angles. Cameras should not be located more than 10 degrees above head height, and should have a zoom function capable of displaying a close-up of the instructor
- Cameras should be located as close as possible to screens and displays. Consult IU technology design team for specific locations
- Use neutral colors for walls
- Use solid, neutral colors for table surfaces (avoid white and wood grain)
- Use non-reflective, uniform texture, non-pattern backdrops
- Avoid dark backgrounds and wood paneling
- Avoid reflective objects (glass, mirrors, white boards) in the camera field of view.

[NOTE that this specification may be in conflict with instructor need to write on board at front of room; see note at end of document.]

- If fixed seats, carpet should be used in aisles and concrete under seats.
- If loose seating, carpet should be used throughout.
- Fixed seating should be cushioned; other seating should be cushioned whenever possible.
- Drape to cover chalkboard. (Optional)
- If outside windows are present, the design must include shades or drapes

Lighting

- Provide supplementary light at an appropriate location to reinforce lighting at front of room. Ability to light talent/instructor and audience participation location(s) without spill on projection screen is imperative. Lighting should be a uniform color temperature (2800-4100K, 3200K recommended). If windows exist, shades should have the ability to completely block outside light.
- 75-100 footcandles light intensity (750 to 1,100 lux)
- Provide even lighting, 3 ft ahead and above participants
- Use light lenses to avoid shadows
- Pay special attention to teaching areas for proper lighting
- Lighting control - zone from front to back when appropriate. Include a separate zone for fixtures close to projection screens and displays

Electrical

- Provide (1) 1 ½ " conduit from a 2 gang junction box at all camera positions to conduit rack in media equipment closet.
- Provide duplex outlets to all camera positions.
- Provide microphone inputs at selected locations for audience participation (number and location depends on size and shape of room).

Acoustics

- Provide microphone placement so that all participants can be heard; typically this would include a wireless lavalier for the instructor and a wireless handheld for audience participation. It might also include ceiling mounted microphones and/or table mics.
- Use drapes, acoustic ceiling tile, upholstered furniture, somewhat lower ceilings, and acoustic wall treatments
- Use anti-static wall-to-wall carpeting
- HVAC systems and components should not exceed NC35

Telecommunications requirements

- A dedicated information outlet for the CODEC is required in addition to the standard outlet for the technology lectern/rack
- Additional voice outlets as needed (telephone, fax)

EQUIPMENT REQUIREMENTS

- CODEC and control system
- Prefer low-light visibility cameras with remote pan/tilt/zoom controls. Camera should

have ability to frame the instructor in a head and shoulders view.

- Microphones
- Programmable automixer: Echo-cancelling feature in videoconferencing device or audio mixer required
- Flat panel monitors
- Document camera
- DVD/BluRay player
- TV tuner
- Auxiliary equipment cart
- Furniture choices should be fixed student tables
- Chairs for use at student tables

LOCATION

Avoid noisy, busy traffic areas, work areas, and offices. Location must be secured during non-use.

Note on use of white boards:

Use of a gray rather than white writing surface and a matte marker board, combined with setting the lights at 45 degree angles minimizes. If white surfaces must be used, careful positioning of the lights is required.