

UCLA GENERAL ASSIGNMENT CLASSROOM STANDARDS

UCLA Office of Instructional Development
Teaching Technology Services

This document represents the current industry standards in the design and equipping of general assignment classrooms at colleges and universities. Certain aspects, specifically the resolution and brightness of data/video projectors, have been adjusted to meet the requirements of UCLA faculty. Four categories of classroom are defined: seminar room, standard classroom, lecture hall, and auditorium.

These standards are subject to change with advancements in technology and changes in pricing structure. For example, high definition video is on the near horizon, but industry standards for both sources and projection have yet to become clear. Plasma screen monitors are currently not economically viable and too much of a security concern to be used in open access classrooms.

Small/Seminar Room (cap <20)

Physical

1. Room Shape- Square or rectangular (2:1). A Seminar Room needs a designated front for the writing surface and the projection screen.
2. Seating- Moveable tables and chairs are preferred, moveable tablet-arm chairs are acceptable. An ADA wheelchair path and seating location must be provided.
3. Lighting- A single zone of dimmable fluorescent lighting is required. The Lutron Radiotouch package with the UCLA wall controller is our preferred system. The fixtures employ 3" deep paracube diffusers for spill control. A 50-60 footcandle level at the desktop is our standard.
4. Windows- All windows require horizontal blinds or shades for light control.
5. Acoustics- Rooms of this size generally do not require acoustic treatment. Air handling equipment should be located outside of the classroom space to minimize noise.
6. Ceiling Type- A t-bar lay-in ceiling is preferred for wiring access and ease of future upgrades.

Media Equipment

1. Projector- An SVGA projector with a minimum 2500 lumen output is required. A single DMD/colorwheel unit is acceptable in these rooms.
2. Media Cabinet- The media sources (DVD,VHS, laptop interface) and projector switching are located in a wall-mounted media cabinet placed as close to the teaching area as possible. All operator controls are placed within the ADA wheelchair reach profile.
3. Audio- Media audio is presented in stereo via speakers flanking the projection screen. These speakers may be wall or ceiling mounted.

4. Screen- A manually operated screen (4:3 ratio) is mounted on the front wall above the writing surface.
5. Writing Surface- White boards on as many surfaces as practical. Chalkboards if desired by highest use faculty only. When projection screen is down, allow at least 4' continuous whiteboard/chalkboard space to each side of screen. If this is not possible due to room size or shape, ensure additional writing surfaces on side or rear walls.
6. Data/Power-Data ports at front and rear of room. 2 data ports at media cabinet location. Power at front and rear of room. Laptop power on media cabinet.
7. Hearing Assist- A mono downmix of the media audio is provided by an infrared hearing assist system on ISO channel 1 (95khz).
8. Remote monitoring/control- An IP-based remote monitoring and control system and a direct ringdown phone are provided for AVS Help Desk support.
9. A visual presenter system working with the data/video projector is provided, either on a cart or in a permanent installation convenient to the teaching area.
10. Computer- A computer connected to the media system and the data network is provided in the media cabinet with the monitor and keyboard on an articulated arm for standing or seated use.

Misc.

1. A lectern, table, or podium is provided.

Standard Classroom (cap 20-69)

Physical

1. Room Shape- Rectangular (2:1). The short wall at the front.
2. Doors- The doors should be on the side wall, not the front as late arrivals disrupt the class.
3. Seating- Moveable tablet-arm chairs or fixed tablet-arm chairs. Special uses may require moveable chairs/tables. Wheelchair spaces and pathways must be provided.
4. Lighting- Two zones of dimmable fluorescent lighting are required, one for the teaching area and the other for the student space. The Lutron Radiotouch package with the UCLA wall controller is our preferred system. Controllers are located at the doors. The fixtures employ 3" deep paracube diffusers to reduce spill on the walls and screen. A 50-60 footcandle level at the desktop is our standard.
5. Windows- All windows require horizontal blinds or shades for light control.

6. Acoustics- Larger spaces with hard walls may require acoustic absorption panels on the side walls to control reverberation (“slap echo”). Air handling equipment should be located outside of the classroom space to minimize noise.
7. Ceiling Type- A t-bar lay-in ceiling is preferred for wiring access and ease of future upgrades.

Media Equipment

1. Projector- An XSGA projector with a minimum 3300 lumen output is required. A single DMD/colorwheel unit is acceptable in these rooms.
2. Media Cabinet-The media sources (DVD,VHS, laptop interface) and projector switching are located in a wall-mounted media cabinet placed as close to the teaching area as possible. All operator controls are placed within the ADA wheelchair reach profile.
3. Audio- Media audio is presented in stereo via speakers flanking the projection screen. These speakers may be wall or ceiling mounted.
4. Voice Reinforcement- A system consisting of ceiling mounted speakers over the student area and a wireless microphone system (with a wired mic backup) is provided for voice reinforcement of the Instructor.
5. Screen- A manually operated screen is mounted on the front wall above the writing surface. This screen is presently a 4:3 ratio but future requirements may require a change to 16:9.
6. Writing Surface- White boards on as many surfaces as practical. Fixed seating may limit the usefulness of side wall mounted boards. Chalkboards if desired by highest use faculty only. When projection screen is down, allow at least 4’ continuous whiteboard/chalkboard space to each side of screen.
7. Data/Power- Data ports at front of room. 2 data ports at media cabinet location. Power at front and rear of room. Laptop power on media cabinet.
8. Hearing Assist- Audio from the voice reinforcement system and a mono downmix of the media audio is provided by an infrared hearing assist system on ISO channel 1 (95khz).
9. Podcasting- Audio from the wireless microphone system is digitized, compressed, and placed on the data network for ingest into OID’s Podcast servers.
10. Remote monitoring/control- An IP-based remote monitoring and control system and a direct ringdown phone are provided for AVS Help Desk support.
11. A visual presenter system working with the data/video projector is provided, either on a cart or in a permanent installation convenient to the teaching area.
12. Computer- A computer connected to the media system and the data network is provided in the media cabinet with the monitor and keyboard on an articulated arm for standing or seated use.

Misc.

1. A lectern, table or podium is provided.

Lecture Room (cap 70-199)

Physical

1. Room Shape- Rectangular (2:1, 3:1). The short wall at the front.
2. Doors- Doors should be on the side wall, not the front as late arrivals disrupt the class.
3. Seating- Fixed tablet-arm chairs provide the maximum guaranteed capacity. Wheelchair spaces and pathways must be provided. Rooms with larger capacity may require risers for the rear seats to maintain good sightlines.
4. Lighting- Two zones of dimmable fluorescent lighting are required, one for the teaching area and the other for the student space. The Lutron Radiotouch package with the UCLA wall controller is our preferred system. Controllers are located at the doors with an additional controller at the media cabinet. The fixtures employ 3" deep paracube diffusers to reduce spill on the walls and screen. A 50-60 footcandle level at the desktop is our standard. If necessary, non-dimmable board lighting may be added.
5. Windows- All windows require horizontal blinds or shades for light control
6. Acoustics- Larger spaces with hard walls may require acoustic absorption panels on the side and rear walls to control reverberation ("slap echo"). Air handling equipment should be located outside of the classroom space to minimize noise.
7. Ceiling type- A t-bar lay-in ceiling is preferred for wiring access and ease of future upgrades.

Media Equipment

1. Projector- An XSGA projector with a minimum 5000 lumen output and 3 imaging devices (LCD, DMD, LCoS) is required.
2. Media Cabinet- The media sources (DVD, VHS, Computer, laptop interface) and projector switching are located in a media cabinet positioned at the side of the teaching area. All operator controls are placed within the ADA wheelchair reach profile.
3. Computer- A computer connected to the media system and the data network is provided in the media cabinet with the monitor and keyboard on an articulated arm for standing or seated use.
4. Audio- Media audio is presented in stereo via speakers flanking the projection screen.
5. Voice Reinforcement- A system consisting of ceiling mounted speakers over the student area and a wireless microphone system (with a wired mic backup) is provided for voice reinforcement of the Instructor.

6. Screen-An electrically operated screen is mounted in the ceiling above the writing surface. The screen is presently a 4:3 ratio but future requirements may require a change to 16:9.
7. Writing Surface- A white board system consisting of vertically nested boards is required. Chalkboards if desired by highest use faculty only.
8. Data/Power- Data ports at front of room. 2 data ports at media cabinet location. Power at front and rear of room. Laptop power on media cabinet.
9. Hearing Assist- Audio from the voice reinforcement system and a mono downmix of the media audio is provided by an infrared hearing assist system on ISO channel 1 (95khz).
10. Webcasting- a mono output of the media audio is provided for connection to the portable webcasting system.
11. Podcasting- Audio from the wireless microphone system is digitized, compressed, and placed on the data network for ingest into OID's Podcast servers.
12. Visual Presenter- An "electronic overhead projector" is provided for display of transparent or paper-based material.
13. Student Response System- A receiver for the Student Response System ("clicker") is installed and connected to the installed computer.
14. Remote monitoring/control- An IP-based remote monitoring and control system and a direct ringdown phone are provided for AVS Help Desk support.

Misc.

1. A lectern, table, or podium is provided.

Auditoriums (cap 200>)

Physical

1. Room Shape- Varies with venue. Rectangular with less than 4:1 ratio desirable for sightlines.
2. Doors- Doors at the rear and at the front side are preferred.
3. Seating- Raked or stepped floor. Fixed table-arm auditorium seats. Appropriate number of wheelchair spaces required.
4. 4. Lighting- Two zones of dimmable fluorescent lighting are required, one for teaching area or stage and the other for the student area. Non-dimmable board lighting is required. Any other architectural lighting (sconces, accent lighting, etc.) must be incorporated into the two zones for control. The Lutron Radiotouch package with the UCLA wall controller is our preferred system. Controllers are located at the doors with an additional controller at the media cabinet. The fixtures employed should control spill light, especially on the projection screen. Because of the

differences in ceiling height in typical auditoria the particular fixture used must be researched for each installation. A 50-60 footcandle level at the desktop is our standard.

5. Windows- All windows require horizontal blinds or shades for light control. Larger spaces or those with many windows may require motorized shades. Window tinting may be required in spaces with excessive light ingress.
6. Acoustics- Larger spaces with hard surfaces may require acoustic absorption panels on side and rear walls. A certified Acoustic Consultant may be required for problematic rooms.
7. Ceiling Type- A t-bar lay-in ceiling is preferred for wiring access and future upgrades. Plaster ceilings require sufficient access doors in the proper locations for access.

Media Equipment

1. Projection/control room- A 10x15 foot minimum projection/control room is required for projection equipment and Webcast camera operation. A large optically clear window is necessary for projection and Webcast use. Remote control of the lighting system and screens as well as a separate A/C system for equipment cooling is required. Multiple 20 amp receptacles, fluorescent work light and dimmable track lighting are required.
2. Projector- An XSGA projector with a minimum 6000 lumen output (larger spaces with large screens may require higher light output) and three imaging devices (LCD, DMD, LCoS) is required. The three DMD projector is preferred. A second XSGA projector with a minimum 5000 lumen output and 3 imaging devices (LCD, DMD, LCoS) is required.
3. Media Cabinet- The media sources (DVD, VHS, Computer, laptop interface) and projector switching are located in a media cabinet positioned at the side of the teaching area. Additional laptop and audio/video inputs may be located on permanent furniture in the teaching space. All operator controls are placed within the ADA wheelchair reach profile.
4. Computer- A computer connected to the media system and the data network is provided in the media cabinet with the keyboard on an articulated arm for standing or seated use. The monitor is replaced by an interactive pen display.
5. Audio- Media audio is presented in stereo via speakers flanking the projection screen.
6. Voice reinforcement- A system consisting of a centrally mounted speaker cluster, two channels or wireless microphone and six wired mic inputs is provided for voice reinforcement of the Instructor.
7. Screens- Two electrically operated screens, one 4:3 ratio for video and one approx. 2:1 for dual slides or 16:9 video are mounted in the ceiling above the writing surface. Depending on the ceiling height of the room the screens when in use either cover the writing surface or stop above it.
8. Writing Surface- A white board system consisting of vertically nested boards is required. These boards should occupy as much of the front wall as practical.

9. Data/Power- Data ports at the front of the room. 2 Data ports at the media cabinet location. 2 data ports in the projection/control room. Power at front, sides, and rear of room. Laptop power on media cabinet.
10. Hearing Assist- Audio from the voice reinforcement system and a mono downmix of the media audio is provided by an infrared hearing assist system on ISO channel 1 (95khz).
11. Webcasting- Audio processing equipment, the camera connector panel, and the video/audio encoder are located in the projection/control room. The encoded files are sent via the data network to the OID Webcast server.
12. Podcasting- Audio from the wireless microphone system is digitized, compressed, and placed on the data network for ingest into OID's Podcast servers.
13. Visual Presenter- An "electronic overhead projector" is provided for display of transparent or paper-based material. The output can be presented on a separate screen(s) to enable simultaneous use of the primary media system.
14. Student Response System- A receiver for the Student Response System ("clicker") is installed and connected to the installed computer.
15. Remote monitoring/control- An IP-based remote monitoring and control system and a direct ringdown phone are provided for AVS Help Desk support.

Misc.

1. A lectern or podium is provided.