

# DESIGN REFERENCE MANUAL

## GENERAL ASSIGNMENT CLASSROOM DESIGN STANDARDS

The standards in this section must be applied to general assignment classrooms. They do not represent standards for other classrooms, but may provide useful guidelines for the design of those rooms.

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### B. ACCESSIBILITY

1. It is expected that the Uniform Federal Accessibility Standards and The Iowa State Building Code be observed and guide all classroom planning standards to ensure accessibility and usability.
2. Special consideration will need to be given in classrooms for inclusion of specialized equipment for persons with disabilities such as wiring and lighting.
  - Remote Real Time Captioning- Additional telephone lines with access to long distance and an electrical outlet in the front of the room for all auditoria seating 100+. It would be prudent to provide an extra Ethernet connection for future web access to replace the current method.
  - Lighting for Signer- A separate light for a sign language interpreter in all auditoria seating 100+ will need to be placed adjacent to the front of the room. This light should not spill onto the projection screen. The light control may be located with other controls at the podium.

### C. ACOUSTICS

1. All walls must extend to the floor above or to the roof construction, and not stop at ceiling.
2. Select system components (fans, ductwork and diffusers) that will meet the acoustical criteria for classrooms.

### D. CEILING

1. Ceiling height should be based on the classroom capacity and design. Therefore, requirements may differ for seminar rooms, classrooms, and auditoria within the same building. Other design issues that impact the height dimension

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of the ceiling are:

- Audiovisual requirements for sight and media projection lines as well as screen size
- Flooring design due to size of room; i.e., flat, tiered or sloped floor

2. The ceiling surface must have acoustical properties consistent with room capacity.

see MEDIA TECHNOLOGY; ACOUSTICS

### E. DOORS & LOCKS

1. The preferred door location for smaller, flat-floored classrooms is at the rear of the classroom.
2. The number of entrances shall meet the requirements of The Iowa State Building Code.
3. Equip doors with delay action closures, kick plate, and glass vision panels in accordance to applicable codes.
4. Doors and hardware must meet code and accessibility requirements. Doors must operate quietly.
5. Locking capabilities must include both manual and electronic functions consistent with Space Planning & Utilization's locking procedures. In new construction, conduit should be run in order to provide for a future classroom cluster electronic marlock system.

### F. ELECTRICAL SYSTEMS

1. All conduit and electrical circuits shall have the same ground reference. It is preferable to have two separate grounds, one for telecommunications and one for the building.
2. All audio, video, and control electrical circuits should be fed from "clean legs" from the transformer, free of high inductive loads. There must be NO elevator motors, compressor motors, blower motors, etc. on the side of the power transformer that feeds the media equipment.
3. Conduit to teaching podium in general assignment classrooms must be pulled ready for installation by Space Planning & Utilization, Equipment Services.  
see MEDIA TECHNOLOGY
4. The number of outlets required in classrooms will depend on the size of the room. These must be distributed throughout the room for overhead projectors, computer access, and vacuum cleaners, etc. The number and location of the outlets will be coordinated with Space Planning & Utilization in the design phase of the project.
5. In new construction, conduit should be run in order to provide for a future classroom cluster electronic marlock system.

### G. FLOORING

1. Flat Floors: Install smooth, non-slip surface of rubber or vinyl composition tile in general assignment classrooms. All flooring shall be as resistant to stains and spills as possible.
2. Sloped or Tiered Floors: A non-slip surface is required for corridors, cross aisles, and for rows if moveable seating is used. Rubber flooring or vinyl composition tile is preferred to carpet for maintenance reasons. Sealed concrete is acceptable; painted concrete is unacceptable.

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3. Carpet should be used only when warranted by physical configuration of room or when authorized by Space Planning & Utilization. If carpet is used, it should be variegated in color, not solid, in order to hide dirt and wear. If the classroom contains carpeted stair aisles, the edge of stair risers must be easily seen to prevent tripping. In new construction, aisle lighting is required.

### H. LIGHTING SYSTEMS

1. Lighting levels shall be guided by the industry standard and be designed to meet program requirements for each classroom. The lighting system must provide a comfortable level for reading/note taking at the student stations plus the ability to light the chalkboard and screen at the instruction area independently of the rest of the classroom.
2. Lighting must permit a level of room darkening to view various projections on front screen but permit sufficient lighting for note taking. In addition, adjustable lighting with no screen spill is necessary over the instructional area. The needs for dimming depend on size and location of classroom, plus demands of current projection technology.
3. All classrooms shall have no less than two separately controlled lighting areas – seating area and instructional area. The ability to dim both areas shall be provided as standard. When the classroom is dimmed for projection, some lighting will be required at the presentation area. Special lighting on the equipment rack or technology controls may be needed.
4. In auditoria seating over 100, a separate light for a sign language interpreter will need to be placed adjacent to the front of the room. This light should not spill onto the projection screen. The light control may be located with other controls at the podium.
5. Dimmer or toggle switches are preferred; no programmable lighting system should be installed without Space Planning & Utilization's prior approval.
6. If rooms are equipped with motion sensor lighting, BOTH motion and heat, not just motion alone, must trigger it. In addition, a manual override system should be in place.
7. At every entrance to the room, locate switches to provide at least minimal room illumination so users do not enter a dark room.
8. An engraved switchplate clearly labeling lighting controls shall be located on the wall nearest to the instructional area as design standard. Duplicate lighting controls should be placed in the projection booth, if applicable.
9. Do not place any type of light fixtures between the ceiling mounted video projector and the main screen.
10. Emergency lighting should be installed in accordance with standard building codes. These lights must ONLY come on when a power failure occurs in the classroom.

### I. MECHANICAL SYSTEMS

1. The mechanical systems of the building should be designed to maintain the same temperature levels in classrooms as in other occupied spaces and be designed in accordance with room capacities.
2. Classrooms should be buffered from internal noise of mechanical systems, elevators, restrooms, offices, etc.
3. System components selected should meet the criteria under ACOUSTICS.
4. Room thermostats should have a clear, locking cover placed to prevent

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unauthorized adjustments.

### J. MEDIA TECHNOLOGY

1. If a media consultant is retained, Space Planning & Utilization must specify all media equipment for general assignment classrooms prior to purchase.
2. An audio/visual storage closet with storeroom lock needs to be provided in or near classrooms for portable media equipment for use in general assignment classrooms without permanent media equipment installed. Space Planning & Utilization will specify the appropriate closet dimensions.
3. Ceiling height should be adequate to accommodate a screen size as specified by Space Planning & Utilization, or by a media consultant with approval by Space Planning.
4. There will be a motorized tension projection screen in all general assignment classrooms. Any and all screen size, surface and placement will be specified or approved by Space Planning & Utilization. Space Planning & Utilization will normally provide the screen for installation by contractor.
5. All general assignment classrooms will have the capability for connecting to any or all of the following: telephone, Internet, and campus cable.
6. All general assignment classrooms will be wired to the classroom "Classnet" computer network.
7. Signal and power pathways, conduit size, and termination points in the general assignment classrooms will be approved or specified by Space Planning & Utilization, Information Technology Services, Broadcast Services, and Video Center, if appropriate.

see ELECTRICAL SYSTEMS

8. An enclosed projection booth for equipment is preferable, if space permits. Where an enclosed booth is not possible a securable cabinet shall be provided instead. Space Planning & Utilization will specify cabinet size. The enclosed projection booth will have a projection shelf and window. The size of each window opening will be approved or specified by Space Planning.
9. General assignment classrooms with technology installed will have a teaching podium where various media will be installed or a small equipment closet near to the teaching podium. There will also be a video/data projector either mounted to the ceiling or in a projection booth, if appropriate. Design and location of the teaching podium and projector will be either approved or specified by Space Planning & Utilization.
10. If media equipment is to be installed by FSG, installation will not begin until the classrooms are "media ready". Media ready means that all finish work is complete, any fixed seating or tables are in place, and all outlets and lights are energized and working. The time required to install the media equipment and teaching podiums will be a minimum of 2 working days per room. Any variance for the minimum installation time will need to be approved by Space Planning & Utilization.
11. All general assignment classrooms must be completely finished and operational 1 week (7 days) prior to opening of classes, to allow time for faculty training.

### K. MISCELLANEOUS FURNISHING

1. Classroom furnishings will be determined by room use and specified by Space Planning & Utilization. Items furnished may include: atomic clocks, moveable tabletop lecterns, free standing lecterns, and trash receptacles.

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2. Typical classroom furnishings include an instructor's table and chair. No instructor's table is provided in a seminar classroom. In classrooms seating 50 or more, a media equipped teaching podium is standard.

see MEDIA TECHNOLOGY

3. Tack surface locations are based on discussions with building occupants. Space Planning & Utilization normally prefers that tack surfaces not be installed in the general assignment classrooms.

### L. ROOM PLACEMENT

1. In general, the preferred classroom location is on the lower floors but buffered from outside noise. Classrooms should be buffered from internal noise of mechanical systems, elevators, restrooms, offices, etc. It is also preferred that classrooms be grouped together in cluster on the same floor.
2. Restrooms should be located in the vicinity of lecture halls. To limit noise problems, there should be NO common wall between restrooms and classrooms.
3. Vending or dining areas should be placed away from lecture rooms or classroom clusters. The vending area should include sufficient trash/recycle containers.
4. Appropriate lobby space should adjoin auditoria to provide a gathering area.
5. Building design should provide for corridor seating outside the auditoria and along the hallways of the classroom clusters. This seating must be placed in compliance with fire code.

### M. SIGNAGE

1. Room numbers should identify all classrooms at the door entrance and be consistent with building signage.

### N. WALL SURFACES

1. All wall surfaces are to resist pencil and pen marks and other stains. All painted surfaces must be washable. *No flat paint* should be applied.
2. In classrooms with moveable chairs, a chair rail shall be provided at an appropriate height for the selected seating on both back and side walls.
3. A durable, easy-to-clean surface such as epoxy paint must be applied below the chalkboard, from the bottom of the chalkboard to the baseboard.

### O. WINDOWS

1. If windows are present, they should be at the side of the room, and not at the front or back.
2. Light control suitable to support media projection must be provided at *each* window.

### P. WRITING SURFACES

1. Slate chalkboards shall be provided in each classroom.
2. Where chalkboards are present, provide the maximum amount of writing surface possible at the instruction end of the classroom. Storage space for erasers and chalk should be provided.
3. The board shall be 4' in height and mounted with the top of the board 86" above the finished floor. In no case shall the bottom of the board be lower than 36" from the floor.
4. All boards are to be provided with cork tack strip along the entire top. The strip will be equipped with map hooks, one per every 2' of board length.