Drew University
Guidelines for Classroom Design
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Classroom Subcommittee of the University Space Committee
David M. Miyamoto, Professor of Biology and Chair
Alan Candiotti (Vice President for Technology),
Oriana Kopec (Manager of Faculty Development, Instructional Technology Services)
Horace Tate (University Registrar)
Julie Valerio (Executive Director of Operations, Aramark)


We have called these guidelines rather than standards since much of the work in the foreseeable future will deal with renovation of existing spaces on campus rather than the building of new ones. Since the pedagogy and technology involved in teaching has changed dramatically, it may not always be possible to achieve all of these guidelines in renovating already existing spaces due to limitations of the actual physical space and budget. It is the intent of this committee that they will serve as standards for all new classroom spaces built in the future.

General Classroom Characteristics

1) Location
   a) Classrooms should be concentrated on the entry levels of buildings to provide easy access for students and equipment.
   b) Classrooms should be located away from noise generators, such as mechanical rooms or student gathering places.

2) Size
   a) Typically designed with 20 -- 25 square foot per student, to accommodate the programmed number of occupants with:
      i) Approximately 20 sf/student for moveable seating
      ii) Approximately 10 sf/student for fixed seating
      iii) Approximately 20 sf/student for conference table seating
   b) Ceiling height should allow for a projection screen large enough to display images of adequate size, and placed high enough off the floor to provide unobstructed sight lines, and have an average height of not less than 9'.

3) Orientation
   a) The major entry should be at the rear of the room.
   b) Windows should be on the sides of classrooms, not at the front or back.

4) All classrooms shall comply with the American with Disabilities Act.

5) Audio-visual accommodations
   a) Instructional Technology Services must be consulted in order to ensure that the spaces and facilities needed for the proper set up and use of audio-visual equipment is included in the design of classroom spaces. To be included in any
new or renovated classrooms is the consideration of the current and future technologies for teaching and ease and success rate of using instructional technology in classroom.

**Classroom Surfaces and Finishes**
1) Walls:
   a) Any wall treatments should give consideration of their impact on the acoustics of the room. All efforts should be made to make the acoustics of any classroom the best possible for teaching.
   b) Chair rails should be installed on the back wall 25" - 33" above the floor, wherever moveable seating is used.

2) Floor:
   a) Vinyl composition tile, unless existing finished concrete floor or carpet is acceptable
   b) Aisle areas and the area at the front of the room may be carpeted; no carpeting shall be installed under fixed seating.

3) Ceiling:
   a) Ceilings should be light in color and made of non-reflective material.
   b) An appropriate acoustical ceiling system shall be included that provides the best conditions for acoustics and lighting in the room.

4) Doors:
   a) Doors should meet all required ADA and building codes.

**Classroom Fixtures and Furniture**
1) Either chalkboards or marker boards should be included in a room intended for classroom use.

2) Size:
   a) In general, the more chalkboards or marker boards in a classroom, the better. Boards should be installed on any surfaces where appropriate and possible.
   b) Chalkboards shall be provided with a full width chalk tray and map rail with cork insert.
   c) Chalkboards shall be placed so they can be used when the projection screen is in use.

3) Projection screen
   a) Instructional Technology Services should be consulted in regards to the appropriate size, type, and placement of any projection screens.
   b) In all circumstances consideration should be given to the placement of projection screens such that the use of chalkboard/marker boards is maximized within the limitations of providing the best possible view of projection screens.

4) Seating
   a) Consideration must be given as to the appropriate type of seating for the nature of the teaching being done in that classroom. In general this mean having moveable seating for seminar and classrooms where students need to shift from one activity to another (eg. Classrooms where computers are being used). In other rooms either tables and chairs, or tablet-arm chairs, are recommended. In large lecture spaces seating 75 or more, seating should be fixed and the floors should be tiered.
b) Side chairs should be provided for lecturers and guests.
c) Tablet-arm chairs or fixed seating should have a minimum of 10% of the seats accommodating left handed students.
d) Tablet-arms should provide a minimum of XXX square inches of working surface and where appropriate, be designed so as to make possible the use of notebook computers.

5) In all rooms an appropriate instructor's station, or table and lectern, or podium should be present.

6) Light-blocking window blinds set in channels shall be provided where windows exist. Window binds should be easy to use and maintain and should block the external light so that any projected images are easily visible to students.

7) Clock:
   a) Large, easy to read face, located so that it is easily seen by the presenter and not the students.

8) Waste receptacle located by the entry.

**Classroom mechanical systems (HVAC)**

1) Temperature controls
   a) Adequate temperature controls to maintain the room between 68 and 78 degrees
   b) Temperature controls not accessible to room occupants.

2) Facilities Services/Project Architects and Engineers must include appropriate and adequate ventilation and air conditioning that is quiet and unobtrusive.

**Classroom Lighting Systems**

1) Lighting shall be designed to create a variety of zones within each classroom appropriate to the use of the room.
   a) Overall light for the classroom entry and exiting
   b) Controlled lighting that only illuminates the seating area of the classroom for note taking while projection systems are in use.
   c) Lighting for the chalkboard/markerboard area
   d) Lighting for the instructor's station

2) Lighting levels
   a) Facilities Operations and/or Project Architects/Engineers should provide the appropriate level of lighting for the tasks (for example computer use, note taking, projection use, discussion) to be done in a particular classroom. In general this means
      i) Ability to reduce general overall lighting by 50% for note taking during media presentations, with no light on the projection screen. Ability to further dim to 5%.
      ii) Seating areas shall be lighted so that 100% of the lamps are on, or 50% of the lamps are on and those lamps are dimmable to 5%.
      iii) Note taking light levels must be designed to avoid washing out visually projected images.

3) Lighting controls
   a) All efforts should be made to have similar arrangement and types of lighting controls in classrooms.
b) All light switches shall be clustered, simple to use, with clearly labeled functions on the switch plates.
c) Controls for room lighting needed for entry and exit should be located near the major entrance doors, and duplicated near the presentation area.
d) Controls for note taking and presentation area lighting shall be adjacent to the presentation area.
e) Motion sensors that work properly shall be used to shut off classroom lighting during prolonged unoccupied periods.

4) Light fixtures
   a) To be determined by Facilities Operations and/or Project Architects/Engineers so as to meet instructional requirements.

Classroom electrical systems
1) To be appropriately designed to meet all codes and requirements and avoid any interference with other classroom systems.
   a) Low voltage cables (e.g. audio, video, and control cables) are all required to run in a separate conduit from any AC wiring.
   b) All wiring should be concealed.
   c) All electrical control circuits should come to a single location, convenient for maintenance and secure from vandalism.
2) Outlets
   a) Utility AC outlets on separate circuits from those used for media equipment.
   b) There should be at least one duplex outlet on each wall, as well as on the front, classroom side, of any projection booth. In rooms with tiered seating, an outlet should be provided in the face of the first riser and on the face of a riser mid-way back in the middle of the seating, both centered in the room. Where appropriate, these should include data ports to the campus network system.
   c) Wall outlets should be positioned 18" above the floor.
   d) Power and audio/video outlets should be mounted on vertical or slanted surfaces rather than a tabletop or the floor to avoid the intrusion of water and debris. Outlets should be stationary and not move (flip-up connections).
   e) AC outlets shall be provided near or on the ceiling for rooms with projection devices or monitors.
3) Instructional Technology Services must be consulted in regards to the proper number, type, and placement of any other outlets and data ports needed to service a particular classroom.

Classroom Audio-Visual Systems
1. Any large projection screen should have an electric motor driven.
2. Controls, electrical outlets, and data ports for audio-visual systems should be grouped together in an uniform way at the presenters station
3. Instructional Technology must be consulted regarding the proper equipment needed for a classroom.