

## **CLASSROOM SPACE UTILIZATION GUIDELINES**

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### **SUMMARY**

- A. University classrooms are utilized for scheduled classes not limited in their use to a specific subject or discipline. In the calculation of space utilization, classroom space is defined as the square footage within the walls including the seating area, the circulation space, and any instructor/ demonstration area.
- B. Consultants should take into consideration the geometry of the room during programming since form can impact the capacity of the room creating a less efficient space. The following guidelines are to be used in programming specific classrooms, if there are times when exceptions must be made, they will need to be reviewed by Planning, Design and Construction.
- C. The capacity for each classroom shall be determined by laying out the floor plan with the following guidelines.

### **ROOM DEFINITIONS**

- A. Collaborative: Classrooms with movable tables and chairs which provide the instructor flexibility to arrange the class in small groups or meet with the entire class.
- B. Traditional Classrooms: Classrooms defined as having either a traditional tablet-arm chair configuration or a narrow table and movable chair configuration.
- C. Lecture Halls: Classrooms for large classes with either a fixed table with pivot-arm chairs configuration or fixed seminar table and movable chair configuration.
- D. Auditoria: Classrooms for large classes having fixed chairs with pivoting oversized tablet arms or traditional theater-style seating.

### **ROOM CHARACTERISTICS**

- A. Collaborative Classrooms
  - 1. Collaborative classrooms are a subset of traditional classrooms in which the teaching methods require group work. The furniture is movable and flexible.
  - 2. Flat floors are required.
  - 3. 25-30 square feet per student accommodates flexibility in furniture arrangement to meet most types of pedagogy.
  - 4. Typically, there is not a 'front' of the classroom. Markerboards and digital displays are installed on each wall to allow for group work and additional flexibility.
  - 5. Collaborative classrooms provide a learning environment that allows instructional elements to be presented in more than one sensory mode (visual, aural, written, kinaesthetic).
- B. Traditional Classrooms
  - 1. Traditional Classrooms are our most common learning spaces. They have movable furniture and are flexible. Furniture can be rearranged to allow for lecture, seminar, group work, or anything else the instructor might require.
  - 2. Flat floors are required.
  - 3. Typically, classrooms contain 30-75 seats.
  - 4. Allow a minimum of 10 feet from the front of the room to the back of the tables in the first row.

5. The instructor's lectern will require a minimum of 10 square feet.
6. 18-30 square feet per student accommodates some collaborative functions.

#### C. Lecture Halls

1. Lecture Halls are tiered classrooms, usually with either fixed tables with pivot-arm seats or fixed tables and movable chairs.
2. Typically, lecture halls contain 50-150 seats.
3. The dimensions of the seating tier or tray must easily accommodate movement behind the seats.
4. Fixed tables with pivot-arm chairs or fixed tables with movable chairs.
5. A curved configuration is preferred, where possible.
6. Required ADA areas need to be defined per ADAAG requirements.

#### D. Auditoria

1. Auditoria are larger tiered classrooms, usually with fixed seating.
2. Auditoria can contain more than 150 seats.
3. The aisles may be sloped but all seating areas must be tiered.
4. Theatre-style seating with attached oversized tablet arms is allowed.
5. A curved configuration is optimum.
6. The dimensions of the seating tier or tray must easily accommodate movement in front of the seats.
7. Required ADA areas need to be defined per ADAAG requirements.

### DESIGN GUIDELINES

#### DESIGN

- A. Every seat must have an unobstructed view of the teaching wall. No columns or other visual obstructions are allowed. As much as possible, the Consultant should avoid the placement of structural columns within the seating area.
- B. Instructor lecterns should be located to not obscure the students' sight lines of the markerboard(s) and digital display(s).
- C. The optimum orientation of the classroom should be determined by the primary expected teaching style, the capacity of the room, and the level of mediation.
- D. Generally, classrooms should be sized in a 2:3 or 3:4 width to length ratio. Long, narrow, style rooms are not acceptable.
- E. Designing for the flexibility of room use is strongly encouraged. The more square footage allotted to each student, the greater the opportunity for flexibility. The room and furniture layout should have the ability to change as the pedagogy evolves.
- F. Classrooms with a capacity of 49 or less are to be as square as possible to allow for flexibility in furniture arrangements and better sightlines.
- G. Classrooms with only one entrance/exit door should not exceed capacity of 49, including the instructor.
- H. In classrooms where the instructor's lectern is moveable, adequate space must be provided to allow the lectern to be positioned, at minimum 3 feet away from the teaching wall.

- I. In classrooms with fixed tables and/or fixed seating, the front edge of the instructor's lectern must be at least 6 feet from the front row.
- J. To accommodate lighting and technology requirements, the ceiling height of all classrooms should be as high as possible. The minimum ceiling height is 9 feet, although 10 to 12 feet above the finished floor is preferred.
- K. In large sloped or tiered classrooms, the ceiling height is directly related to the distance from the front of the classroom to the last row of seats. Ceilings in lecture halls should be at least 9 feet high at the rear and the ceiling height at the front of the room must accommodate the appropriate screen size.
- L. Ceiling height and viewing distance to the teaching wall must be considered when planning a classroom. The standard issued by AVIXA must be followed, where possible.
- M. Traditional classrooms, lecture halls, and auditoria may need furniture with integrated power and/or data. Furniture layouts and classroom capacity must be considered when laying out electrical plans.
- N. To ensure adequate circulation through the learning spaces, minimum clearances must be maintained.

## **FURNITURE**

- A. Tables can be for 1, 2, or 3 students allowing for a minimum of 30" per student. The number of students per table is flexible and is determined by the type of classroom and the configuration of the classroom.
- B. To allow for note taking and reference materials the minimum work surface area should be 3.75 square feet per occupant, 5 square feet is preferred.
- C. Depths of tables vary from 24" – 30" based on room layout. 24" wide tables are preferred with 3' space between tables, in standard classrooms. 30" wide tables are preferred in computer labs with 4' space between tables.
- D. Provided tablet size should be equal to or larger than 12" x 15", 1.25 square feet.
- E. 10% - 15% of tablet work surfaces should have left-handed orientation.
- F. Auditoria fixed seat width to be at 24 inches unless restricted by row curve.
- G. Tablet-arm seat size to be at 32 inches with 1 foot space in front with the tablet arm in its usable position.
- H. In areas of fixed seating, additional seating should be provided that allows flexibility for individuals who are unable to utilize the fixed seating. This seating, as well as companion seating, should conform to the design of the fixed seats.
- I. ADA guidelines must be followed, access for both students and faculty should be considered.
  - 1. Large classrooms should provide a choice of wheelchair accessible seating.
  - 2. All layouts and furniture must comply with ADA standards for Accessible Design <http://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.htm>

## CAPACITY

- A. As generalized planning guides, the following ranges of classroom unit floor area criteria may be useful. Note that different seating configurations and the amount of circulation space within the classroom affect these unit area allowances.

Student Station Count	Assignable Square Feet per Station		
	Chair with Tablet Arm	Table and Chairs	Auditoria Seating
5-9	20-30	20-30	--
10-19	18-22	20-30	--
20-29	16-20	20-30	--
30-39	15-18	20-25	--
40-49	14-16	18-22	--
50-59*	14-16	18-22	--
60-99*	13-15	18-22	18-22
100-149*	11-14	16-20	16-20
150-299*	10-14	16-20	14-18
300+*	9-12	16-18	14-18

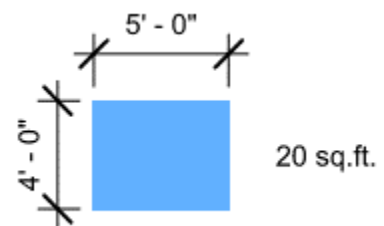
\*Seating capacity per fire codes for classrooms with only one entrance/exit door should not exceed a capacity of 49.

### B. Tablet-Arm Chairs

- 10 feet from front teaching wall to back of chairs in first row.
- Chairs spaced 38 inches from back to back and on 26 inches centers laterally.
- Rows less than 8 chairs wide require 6 feet total aisle. Rows with 8 or more chairs wide require 8 feet total aisle.
- Lateral aisles at the rear of the classroom should be 3 feet wide. If there is no lateral aisle, allow 6 inches of space between the back of the chairs and the rear wall.

#### E.g. #1 (16) Armchairs w/ 20 sq.ft. per station

Assignable square feet per station shall be 18 - 22 per MSU Arm Chair Classroom Layout Guidelines.

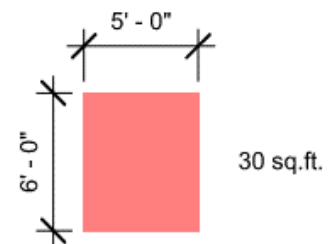
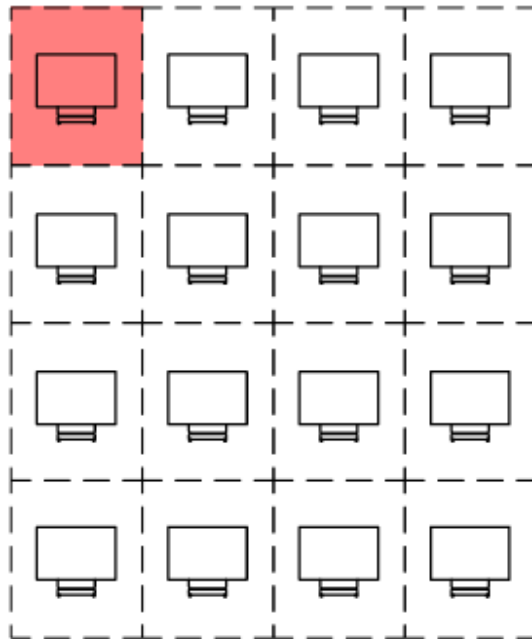


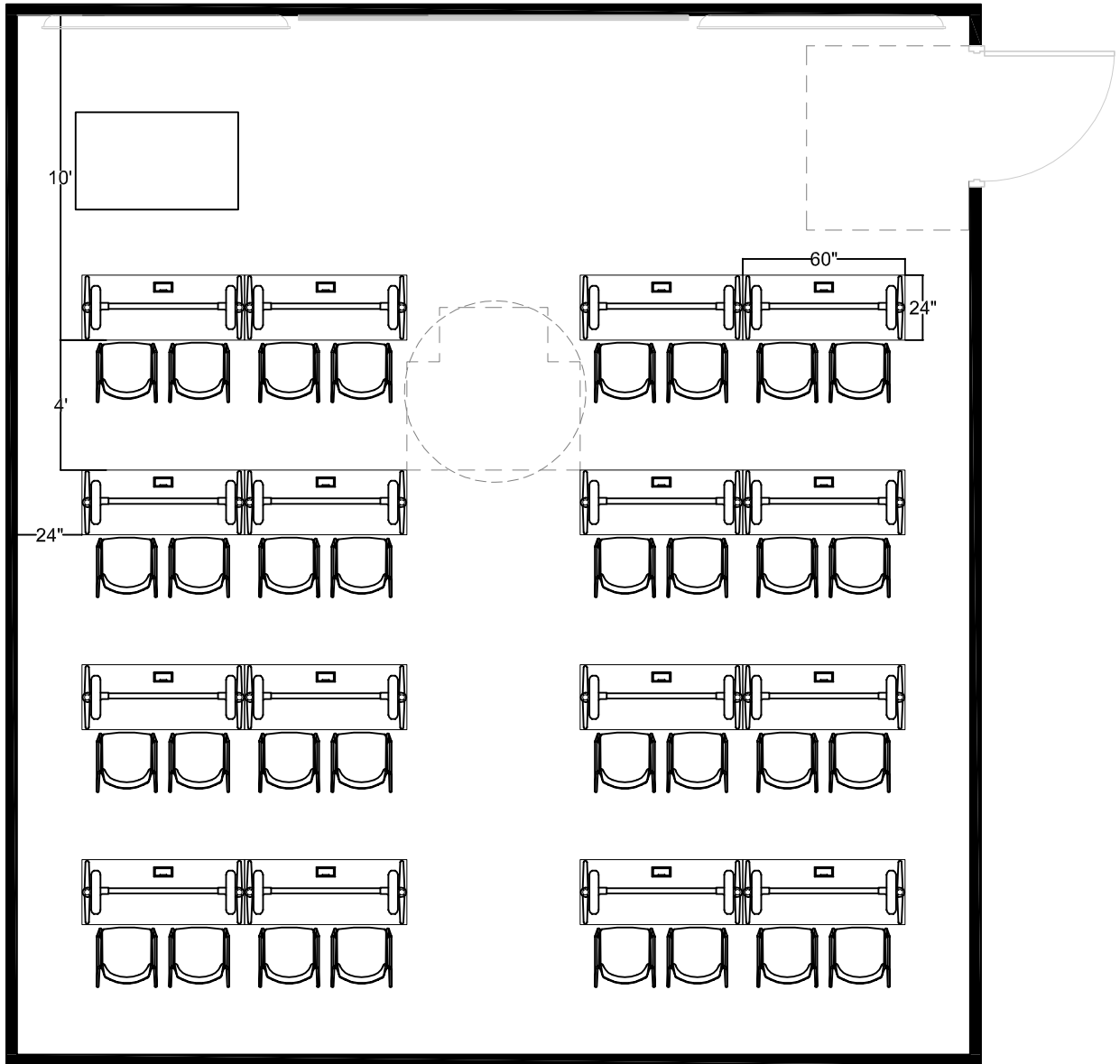
### C. Tables and Chairs

1. 10 feet from the front teaching wall to the back of the tables in first row.
2. Allow 3 feet of space between rows in traditional classrooms. Computer labs should have 4 feet of space between rows.
3. Rows less than 8 chairs wide require 6 feet total aisle. Rows with 8 or more chairs wide require 8 feet total aisle. Typically, traditional classrooms with tables and chairs should not have rows more than 8 chairs wide.

#### E.g. #2 (16) Tables & chairs w/ 30 sq.ft. per station

Assignable square feet per station shall be 20 - 30 per MSU Arm Chair Classroom Layout Guidelines.





1 CLASSROOM LAYOUT  
 $3/16" = 1'$