Social Distancing Spatial Modeling—Classrooms

Objective data is needed to maintain a spatial arrangement that provides all persons with social distancing, i.e. 6’ spacing between other people. Physically evaluating each space is the goal, but will take time. Area calculations and modeling are simply a means to quickly engage the problem and start working toward options and a better understanding.

The CDC recommends a 6’ spacing area per person in all directions. This initial model assumes a 2’ diameter person in the center, resulting in an 8’ “bubble”.

This is exceptionally challenging to achieve classroom capacities over 15 students.

Considering face to face contact as the driver for social distancing, the “bubble” can be reduced by the 2’ diameter of a person, resulting in a 6’ “bubble”.

This high density interpretation of the spacing guidelines is difficult to achieve given individual room ingress/egress, furniture, and layout realities.
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28.3 sf/person
Early classroom modeling indicates 28.3sf/person is not achievable.

Mines Modeling Guideline

63.5 sf/person
Adding 3 feet of buffer space around an individual’s bubble allows for general circulation in a space. This density is generally achievable in classrooms with moveable furniture. This density is appropriate for some fixed table classrooms, dependent on table spacing. However some rooms will be even less dense, 100sf-130sf/person.
Social Distancing Spatial Modeling—Classrooms

Marquez Hall—Example
Rooms 108 and 122

Room 108
1,266sf
Moveable Seating—63 Seats

Room 122
1,271 sf
Fixed Tables—54 Seats
Social Distancing Spatial Modeling—Classrooms

Marquez Hall—108
Moveable Furniture | 1,266 sf
24 Students + 1 Instructor = 25 Occupants
1,266 sf / 25 = 50.64 sf/Occupant
Considerations:
- Room Geometry
- Ingress/Egress space
- Teaching Zone

Sequential Loading & Unloading
Classrooms without defined rows between seats should be loaded so that the rows furthest from the entrance are occupied first and vacated last. This will minimize students crossings in the space.
Social Distancing Spatial Modeling—Classrooms

Marquez Hall—122
Fixed Tables | 1,271 sf
19 Students + 1 Instructor = 20 Occupants
1,271 sf / 20 = 63.55 sf/person

Considerations:
- Room Geometry
- Distance between tables
- Chair spacing
- Table legs
- Ingress/Egress space
- Teaching Zone
Social Distancing Spatial Modeling—Classrooms

Hill Hall—204
Fixed Tables | 953 sf
12 Students + 1 Instructor = 13 Occupants
953 sf / 13 = 73.3 sf/person
Considerations:
- Room Geometry
- Distance between tables
- Chair spacing
- Table legs
- Ingress/Egress space
- Teaching Zone