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#6 CLIMATE·WEATHER·DRAWING
#7 Structure·Materials·Models

Architecture
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ASSIGNMENT #6

The design content of this exercise is meant to deal with Climate and Weather as physical considerations in design. The drawing content will introduce Paraline Drawing as well as extending experience with Orthographic Projection.

The task here is to "gimme shelter." You will be designing a tiny cabin to be placed on flat open ground near Austin which will have no mechanical means of heating, cooling, ventilation or lighting. You will have to use the laws and forces of nature to optimize temperature light and air in the cabin to make it habitable and comfortable for the maximum amount of each day for as much of the year as possible.

1. Find a south facing window at home or here at the University where you can give easy access during all times of the day. Note the exact dimensions of the window and its height from the floor. Observe the pattern of sun penetration through the window at 10:00 a.m., 12 noon, and 4:00 p.m. during this time of the year. Make an accurate record of your observations. Also note the warmth and quality of the light.

2. Digest thoroughly the information contained in sun angle diagrams. Understand the application of this information to Austin, Texas.

3. Design a roughly 8' x 8' x 8' cube space to be used throughout the year as a sort of permanent camping spot. The floor will be a concrete slab. The walls will be made of 2" x 4" stud construction with 3 1/2" batt insulation and plywood sheating. Fenestration should consist of fixed glass and/or operable windows with one or more doors. The roof should be made of 2" x 6" joists with 5 1/2" batt insulation and plywood sheating with shingles applied on the top side. The primary variables you are to work with are fenestration pattern and roof configuration. With these variables you should produce, as pleasant and constant a climates environment as is possible.

4. Document your design in two paraline drawings taken from opposite directions at a scale of 1/2" = 1' 0". From one of these drawings make 9 blackline prints. On the prints indicate the sun penetration in the cabin at 10:00 a.m., 12 noon and 4:00 p.m. on June 21, December 21, and September 21/ March 21.