

Arch 463
ECS
Fall 99

Name _____

Quiz #1

"Sunset Viewing Only"

For this problem you are the passive design consultant for a Florida-based sunset lover who has constructed a viewing platform on a rock outcropping overlooking the Gulf of Mexico. As it stands today, the platform is an 8" thick 10' x 10' concrete slab mounted on a cross-braced steel trestle. Four 8' tall 4x4 treated-wood posts are fastened to the slab, forming the outside corners of an 8' x 8' square—8' x 8' wall modules fit snugly between the posts. There are no utilities on the site, neither water nor electricity. The sunset lover wants the finished viewing platform to be totally passive and comfortable at sunset all year. Your task is to wisely choose the wall modules and roof type to complete the structure and meet the client's needs.

Climate Context. The site is near Tampa, Florida. A bioclimatic timetable is given for Tampa. Summer winds are typically from the north while prevailing winter winds are from the west.

Kit-of-Parts. You must choose your wall and roof modules from a restricted kit-of-parts.

Wall choices (8' x 8' modules)

(Use 4 different modules)

Open—no wall

Concrete block, 8" thick

Stress-skin panel, 8" rigid insulation

Cedar lattice

Glass block, 12"x12" vision block

Perforated steel, 80% opaque

Sliding glass door

Roof choices (10' x 10' hipped modules)

(Use one)

Metal w/metal studs, uninsulated

Cedar shingle w/wood frame, uninsulated

Precast concrete, exterior insulation

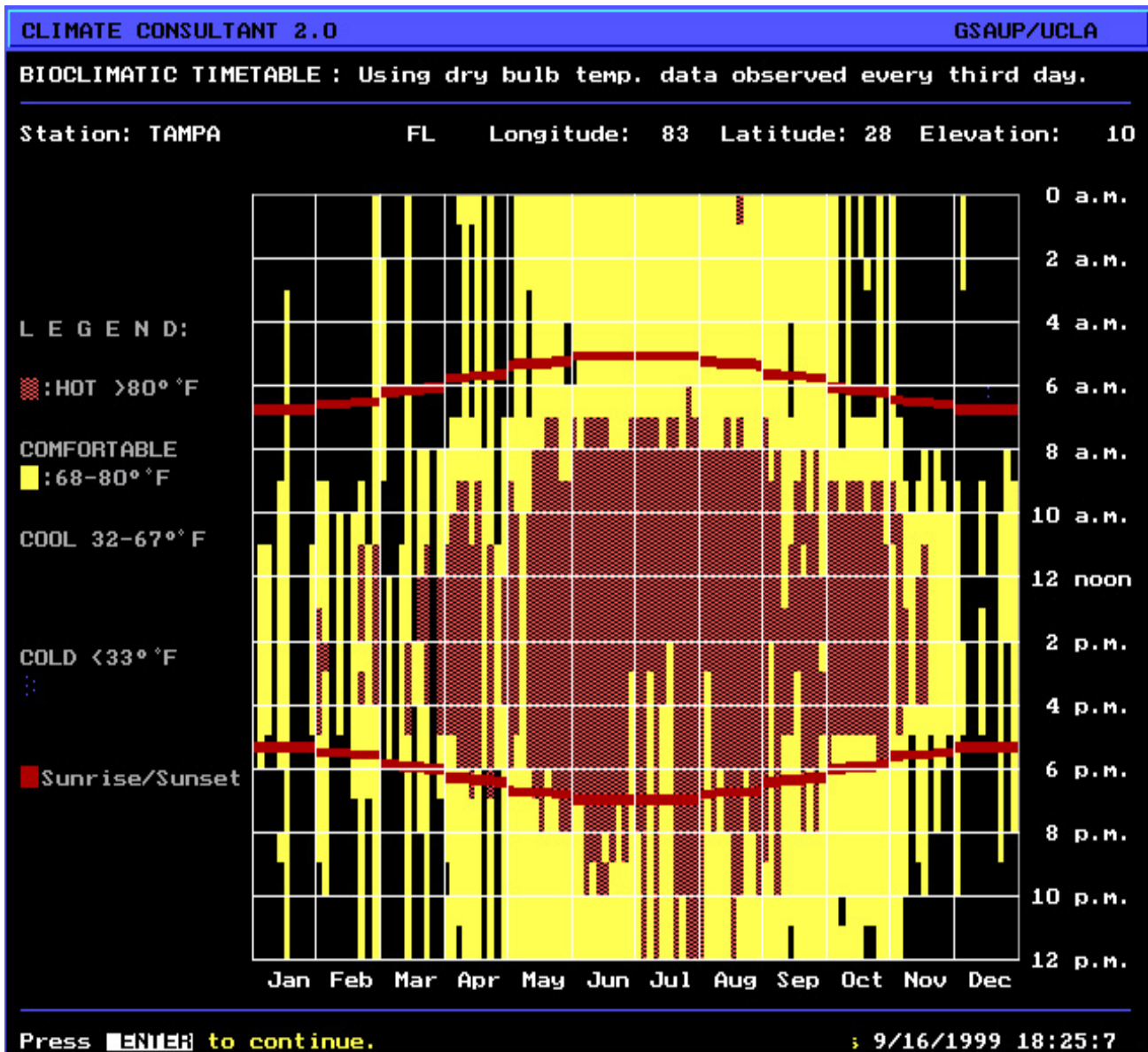
Kalwall, 8" fiberglass insulation

Tempered clear glass

2 points

1. Analysis

Based on the bioclimatic timetable for Tampa, **describe** the appropriate architectural responses to climate for sunset viewing comfort throughout the year.



5 points

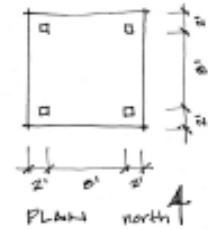
2. Design

Specify your choice of the module for each wall and the roof.

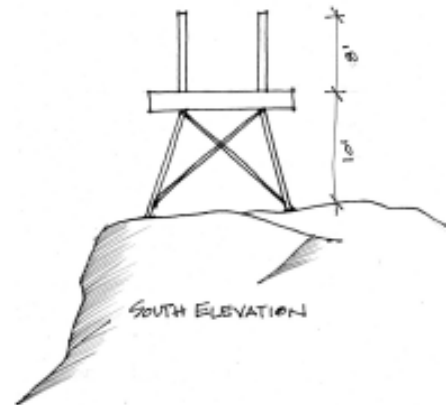
Explain how each of these modules responds to the climate, satisfies the program, and provides comfort to the occupant at sunset all year. Use Norberg-Schulz' source-path-receiver language to describe the modules.

East

West



North



South

Tower plan and elevation.

Roof

3 points

3. Scenario

Explain how an occupant of the tower can achieve comfort viewing the sun set on a December afternoon. Base your argument on your design, the bioclimatic timetable, and Olgay's assumptions about the comfort zone. You may need to make drawing to explain your rationale.