



University of Arizona  
college of architecture and landscape architecture  
school of architecture  
ARC 202

### **PROJECT 1: Meditation Hermitage**

This semester you are charged with designing a Hermitage for Meditation. The retreat will be a place for meditation, contemplation and self-reflection. Your site is an isolated plot of land that has been designed to possess areas of Prospect, Journey and Enclosure with the dimensions 32'-0" X 80'-0" in the isolated High Desert of the San Luis Valley of Colorado adjacent to the Great Sand Dunes National Park. Vegetation is sparse and views of the Sand Dunes are to the North of the property. Access to the site is only possible on foot and materials will have to be brought to the site on horseback and airlifted by helicopter.

The Meditation Hermitage is to be comprised of 3 components. The first is a monolithic hermitage (dimensions 10'-0" L X 8'-0" W X 8'-6" H) that intimately accommodates the body in 3 positions. The hermitage will be fabricated off-site and airlifted to the site by helicopter. The second component of the project is a structure that supports the hermitage and contains a circulation system that allows for access to each of the 3 body spaces and to the landscape. The final component of the design is a sculptural photovoltaic array and solar shade structure that provides electricity and/or shades the hermitage from the desert sun. The materials to build the support structure and sculptural array structure will be carried in by foot and horseback.

You will design each of the 3 components separately beginning first with Hermitage that is to be airlifted. After this has been designed, you will be asked to design the structure that supports the hermitage in the landscape. Finally, you will design the sculptural curtain wall that serves as a solar or wind shade structure.

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### Analog Assignment 1.0

Designing Landscape: Prospect, Journey, and Enclosure  
Due January 28. 1:00pm

**PROBLEM:** Given a site of dimensions 32'X80' at  $\frac{1}{2}$ " = 1'-0" scale, and a process of layering corrugated board, design a landscape that defines the following spatial conditions:

Prospect  
Journey  
Enclosure

The difference in elevation between the highest and lowest point of two edges at the perimeter of your site must be at least 6'-0" (to scale). The overall total height of the model cannot exceed 12'-0". This project does not consider horticulture (trees and vegetation). Consider the landscape pliable and able to be sculpted. Final model must be well crafted.

**REQUIRED:** Study Models, Final Model constructed of 1/16" or 1/8" corrugated or chip board  
Scale: 1/2"=1'-0"

Site Drawing with topographic indicators every 1'.  
Lat. and Long Sections (3 each). Graphite on Strathmore  
Scale: 1/4"=1'-0"

**READING:** Form Space & Order: pp100-113, 229-237, 252-263

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### Digital Assignment 1.0

Subtractive Space: A Pre-Fabricated Hermitage for 3 Bodies

Due: February 4, 1:00pm

**PROBLEM:** Through the process of subtraction from a given solid, design a space that allows for the occupation of 3 bodies at one time. The design of the hermitage must allow for the body to assume three body positions that respond to a single operant that is the essence of the meditation experience. Using any one, or combination of Boolean and insertion tools in FormZ, develop a series of spaces for the body to occupy within the given dimensions of 10'-0" L X 8'-0" W X 8'-6" H, the size of a small shipping container. The final form must be legible as a subtractive condition.

Select 3 body positions and one spatial operant from the following lists:

**Body Positions** (choose 3)

Sitting  
Laying  
Leaning  
Climbing

**Operant** (choose 1)

Conceal  
Expose  
Isolate  
Frame

**DESIGN TOOLS:** Insert Tools: pp 97-102 (Form Z 4: 3D Modeling, Rendering, and Animation)  
Boolean Tools: pp 41-46 (Form Z 4: 3D Modeling, Rendering, and Animation)

**DESK CRIT AND FINAL REQUIREMENTS:**

3 Interior and 3 exterior perspectives with the human figure(s) collaged in to the vignettes  
Renderings must show shadows and depth  
MEDIA: 8 1/2" X 11" prints (6 total)

**READINGS:** Form, Space & Order, pp 41-49, 52-57, 168-173, 302-304, 310-317

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### **Analog Assignment 2.0**

Subtractive Space: Building the Pre-Fabricated Hermitage for 3 Bodies

Due: February 18, 1:00pm

**PROBLEM:** Using the section, contour and/or unfold tools in FormZ, print out a series of working documents at 1/2" = 1'-0" that include patterns for plans, sections, and elevations which allow you to build the hermitage that you designed in FormZ. Select 2 different methods to fabricate of the hermitage from the following list:

Layering  
Casting  
Egg Crating  
Surface Massing

### **DESK CRIT AND FINAL REQUIREMENTS:**

2 hermitage models

1 Drawing (digital print) describing the relationship between Plan, Section(s), Elevation , unfoldings and your process of building

1 Drawing (digital print) discussing the relationship between Plan, Section, Elevation  
Include the human figure in each vignette.

### **POSSIBLE MATERIALS/MEDIA:**

1/16" corrugated or chipboard  
rockite  
hydrocal  
aluminum  
wood  
acrylic

You may use wood, foam core and other materials to construct the forms.

**SCALE:** 1/2"=1'-0"

**DESIGN TOOLS:** Section/Contour Tool: pp 196-199 (Form Z 4: 3D Modeling, Rendering, and Animation)  
Unfold Tool: pp 207-208 (Form Z 4: 3D Modeling, Rendering, and Animation)

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### Digital Assignment 2.0

Modeling the Landscape: **Prospect, Enclosure, Journey**

Due: February 25, 1:00pm

**PART 1:** Model your **Landscape: Prospect, Enclosure, Journey** in FormZ. Use the Terrain tool to model the landscape as a triangulated mesh, square mesh and layered topographical model. Scan in your Strathmore drawings (save as .pict or .pct) of your landscape to use as an underlay\* in FormZ to make an accurate representation of your original design. You may want to use this opportunity to reconsider your design and reinforce concepts you discovered when making your corrugated board model.

**PART 2:** Select 3 vignettes of your landscape using each terrain type. Using photoshop, insert several scale figures (photographs of you for example) in to the vignettes that show the occupation of the spaces within your landscape. Consider depth, perspective, scale, shade, texture map and shadow as well as the several display types (wire frame, hidden line, etc.) It may be helpful to model a representation of the body in FormZ to help convey perspectival depth in your vignettes that you remove later in photoshop.

**PART 3:** Using a high-resolution digital camera (4 megapixels or greater) or color print film, thoroughly photograph your corrugated landscape model. Capture views from directly above as well as several views within your landscape. Consider the angle of the light source and the position of shadows on your landscape to reinforce your concept and spaces. Outdoor lighting with a black or white backdrop is recommended. Fill the frame of your camera with the model.

Select 3 vignettes of your photographed physical model and using photoshop, insert several bodies showing the occupation of the spaces within your photographed landscape. Consider depth, perspective, scale, shade and shadow.

### DESK CRIT AND FINAL REQUIREMENTS:

3 prints demonstrating occupation of your landscape in perspective using triangulated mesh  
3 prints demonstrating occupation of your landscape in perspective using square mesh  
3 prints demonstrating occupation of your landscape in perspective using layered topography  
3 prints demonstrating occupation of your physical model using your photographs

**MATERIALS/MEDIA:** 8.5"X11" prints formatted landscape.

**DESIGN TOOLS:** Terrain Tool: pp 199-204 (Form Z 4: 3D Modeling, Rendering, and Animation)  
\*Underlay: pp 151-152 (Form Z 4: 3D Modeling, Rendering, and Animation)

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**Analog Assignment 3.0**  
Support Structure for the Hermitage  
Due: March 10, 1:00pm

Design a structure that supports the hermitage in an elevated position relative to the ground plane and contains a circulation system that allows for access to each of the 3 body spaces in the hermitage and to the 3 spaces within the landscape. Consider how the structure physically connects to the ground and to the hermitage. The structure should be carefully sited in response to the context. This circulation system should also contain two viewing areas that look out towards the landscape, or are a moment of introspection.

**PROGRAM:** Two Viewing Platforms  
Access to all spaces in the landscape and those within your Hermitage.

**CIRCULATORY CONSIDERATIONS:**

Path  
Approach  
Entry  
Access  
View

**STRUCTURAL CONSIDERATIONS:**

Anchoring  
Grounding  
Elevating  
Siting

**PROBLEM:** Using basswood of dimensions no greater than 1/8" actual in one dimension, support your space for 3 bodies above the site such that the support structure serves as a mediator and connector between the **Hermitage** and the **Landscape**. Use the same structural elements to define circulation and view. Maintain the same concept you employed when designing the hermitage. Consider and reconsider the organization and circulation in your landscape when developing your design.

**DESK CRIT AND FINAL REQUIREMENTS:**

Study Models  
Model Sited within your landscape.  
Plan, Section and Elevation Drawings on Arches Paper

**MATERIALS/MEDIA:** 1/8" or smaller dimension Bass Wood

**SCALE:** 1/2"=1'-0"

**READINGS:** Form, Space & Order pages: 113-119 (OVERHEAD PLANE)  
174-175 (VIEW)  
177-187 (ORGANIZATION)  
227-275 (CIRCULATION)  
321-329 (AXIS)

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### Digital Assignment 3.0

Modeling the Meditation Hermitage & Curtain Wall

Due: March 31, 1:00pm

#### Part 1. MODELING THE MEDITATION HERMITAGE

Model your **Meditation Hermitage and associated Support Structure** in FormZ within your **Landscape**.

#### Part 2. DESIGNING THE SCULPTURAL CURTAIN WALL

In the design of your Meditation Hermitage, you developed a structural system to support the pre-fabricated component of the hermitage and defined two spaces for viewing. For Part 2, you are to select a face, surface or area to clad, shield or enclose with a sculptural, non-load bearing exterior curtain wall which can serve as a solar shading device or photovoltaic array. The enclosure you design should reinforce the concepts you have pursued thus far.

**PROBLEM:** Using Non-Uniform Bezier Spline (NURBS), C-Mesh or meshed surfaces, create and attach an exterior curtain wall to your existing structure that defines, expands upon and reinforces your concepts

#### DESK CRIT AND FINAL REQUIREMENTS:

2 Interior and 2 exterior perspectives with the human figure(s) collaged in to the vignettes  
1 10 sec animation  
Renderings must show shadows and depth  
MEDIA: 8 1/2"x11" prints (4 total)

**READINGS:** pp. 347-358 NURBS and Patches Tool Palette (Form Z 4: 3D Modeling, Rendering, and Animation)  
pp. 336-346 Smooth Curves, C-Curves and C-Meshes  
pp. 91-96 Edit Controls (Form Z 4: 3D Modeling, Rendering, and Animation)  
pp. 402-212 Animations (Form Z 4: 3D Modeling, Rendering, and Animation)

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**Analog Assignment 4.0**  
Building the Solar/Wind Screen Curtain Wall  
Due: April 14, 1:00pm

### **SOLAR/WIND SCREEN CURTAIN WALL**

In the design of your Retreat Station for Observation and Contemplation, you developed a structural system to support you Space for 3 Bodies and define two spaces for viewing. You also selected a face, surface or area to clad or enclose with a sculptural, non-load bearing exterior curtain wall.

**PROBLEM:** Using the Contour, Unfold, or any combination of tools or output methods you learned over the course of the semester, accurately construct your curtain wall and associated structure as a part of your physical model. Consider the hierarchy of your structural system, and explore the use of material cladding systems in model. Heat-formed acrylic, mylar, nylon, and other materials are possible surface materials that can clad your structure.

### **DESK CRIT AND FINAL REQUIREMENTS:**

Final Model of excellent craft and excess of elegance