**ARCHITECTURAL DESIGN I**

**Project 5: House and Studio for a Painter**

*"The principle of hierarchy implies that in most architectural compositions, real differences exist among their forms and spaces. These differences reflect the degree of importance of these forms and spaces, and the functional, formal and symbolic roles they play in their organization. The values expressed may be individual or collective, personal or cultural. The manner in which these functional or symbolic differences among a building's elements are revealed is critical to the establishment of a visible, hierarchical order among its forms and spaces."* - Francis D.K. Ching, Architecture: Form, Space & Order

**Program:**

A portrait painter has commissioned you to design a small residence for a family of three along with a detached studio. The house will be located on a corner lot in a new and architecturally undefined neighborhood. The family also requires a detached garage. The Owner specifically request that the three major elements, house, garage and studio be architecturally related.

1. HOUSE (first and second floors):

A. Foyer, 40 S.F.   
B. Living Room, 300 S.F.   
C. Dining Room, 140 S.F.   
D. Kitchen with eat-in-bar, 120 S.F.   
E. Master Bedroom, 150 S.F.

+ Master Bath interactive with bedroom

and toilet room 3’x5’ (solid)  
F. Child's Bedroom, 100 S.F.   
G. Guest Bedroom / loft, 100 S.F.   
H. Bath 5’x8’ = 40 S.F. (solid)  
I. Lavatory 5’x5’ = 25 S.F. (solid)

J. Closets as needed (solid)

K. Other functions if needed

L. Stairs with landing 6’x8’x17’ (solid)

2. GARAGE, 200+/- S.F.

3. STUDIO

A. Painting Space, 220 S.F.

B. Possible Foyer, 40 S.F.   
C. Office Space 80 S.F.

D. Lavatory 5’x5’ = 25 S.F. (solid)

C. Closets/storage as needed (solid).

**Concepts and Theory:**

**Goal for Project 5: Hierarchy**

Apply ordering and organizing concepts as outlined below. You may add additional functions if you feel they have been left out of the program. Please do not design a real house.

This is a project that focuses on three dimensional space, massing and ordering principles.

**Anthropometric Design:**

Anthropometric design focuses on the physical making and definition of space as it relates to the active participant.  This is not the only starting point in the in the architectural design process but it is the most tangible for novice designers.  There are many other starting points (heuristics) in the architectural design process in addition to an anthropometric one: analogy/metaphor, environmental and contextual, prototypes and typologies, formal stylistic rules (i.e., classical, modernist, deconstruction), etc.

**Literal Analogies:**

Literal Analogies focuses on formal spatial patterns and geometries that hold meanings. These are sometimes created using hierarchical compositions that express the importance or significance to show the client’s ideas and hence give meaning and value to the project. They can also use forms that are metaphors but that aspect will not be investigated in this project.

**Ordering Principles:**

1. Formal ordering principles as outlined in the text: axis, symmetry, hierarchy, rhythm, datum and transformation.

* AXIS: is a visual connection between two architectural spaces or forms. This ordering principal is too simple for this project to create overall order.
* SYMMETRY: is the balanced distribution of architectural spaces and forms. We are walking examples of symmetry. Symmetry has is an important ordering principal but for novice designers it is sometimes used exclusively at the expense of other principals so it cannot be used on this project.
* HIERARCHY: is the arrangement of spaces and forms to give importance or significance to things in an architectural composition. This requires establishing a compositional rule that is than broken to give a visible signal that something special has occurred; an anomaly in a normative pattern. The rule can be broken by spaces or forms that have different a size, shape or placement relative to the established rule.
* RHYTHM: is similar to hierarchy in that it requires the establishing a pattern and than breaking it but it is typically connected with visual time sequencing although a circulatory path it let the viewer know something is coming. This ordering principal is too complex for this project and should not be considered.
* DATUM: is a space or form that ties together dissimilar elements in an architectural composition. A successful datum should have a functional and or symbolic role in the composition and not solely a formal role.
* TRANSFORMATION: requires starting with an existing prototype that is altered by new program and contextual requirement but does not fundamentally change the concept. This principal cannot be used on this project.

1. Additional principles (from Project 4):
2. Circulation (path) prototypes: linear, radial, grid, network, spiral, composite.  Your circulatory pattern should be simple and fit a prototype.  Spatial relationships can be complex.  Never make a complex and convoluted circulatory pattern, it will never function, it’s not cost effective and it will usually not meet code requirements.
3. Space path relationships: (a) path outside a space, (b) path along the inside edge of a space, (c) path terminating in a space.
4. Spatial relationships (from last projects): (a) space overlapping a space, (b) space within a space, (c) space abutting a space.

**Abstracting process:**

1. Diagram: a reductive graphic abstraction representing an idea in one or more systems of a complex entity.  The diagram becomes the ‘game plan” for developing the architecture.  In this project the diagram represents space (solid lines) and path (dash dot lines).  Functional areas can be drawn as light lines with in the spaces as abstract objects.
2. Function: treat function as an abstract object that occupies a space.  If the space is larger that the function then the space works and if it’s smaller than the function the space does not work.  Allow for circulation to occur.  Circulation should not disrupt or go through the middle of a function.
3. Proportion out the functions diagrammatically noting the relative sizes so that the space diagram works and is not a hyperbolic cartoon.

**Types of architectonic relationships: form, function and symbolism**

There are three types of architectonic relationships: formal, function and symbolism. Good architecture usually embodies aspects of more than one, and great architecture has all three. Architecture that has formal compositional qualities, a functional purpose and conveys symbolic meaning creates a powerful design.

1. Formal: are the ordering principles used in architectural compositions such as axis, symmetry, hierarchy, rhythm, datum and transformation. These strategies create conventionally correct architectural compositions. The ordering principles selected by the architect embody the ideas and values of the client.
2. Functional: are elements, forms and spaces that have a practical purpose or use. Function is the primary rational for design decisions but alone lacks the formal qualities to create conventionally correct architectural compositions or symbolism to give poetic meaning.
3. Symbolic: are architectural forms that represent an idea.

**Creative process:**

This creative process is designed to develop ideas from an architectural program (at the IDEA step in the Design methodology). An architectural program is a list of functional requirements that sometimes includes proximity relationships (i.e., this has to be near that) and in some cases an overall meta idea or global philosophy. All of these creative strategies are designed to constrain many unconstrained variables in a design problem.

1. Narrative: developing a narrative creates a detailed story to sequence and relate variables to give meaning and further expand formal, functional and symbolic relationships. For example, one could say the painter gets his inspiration for his painting from his family activities that occur in the kitchen through the act of eating and breaking bread together.
2. Ranking variables: create a hierarchical ranking of variables to prioritize ideas, values or functions for creating hierarchal meaning. In this project, select a macro hierarchy between the house, studio and garage and a micro hierarchy within the house functions.
3. Sorting / Segregating variables: create abstract groupings, categories or types of similar variables to see recognizable patterns. In this project, segregate functions into public vs. private, or work vs. play, etc.

**Design methodology:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IDEA** | **Creative step** | **DIAGRAM** | **Creative step** | **ARCHITECTURE** |
| Verbal  Inspirational  Thought | Convergent  Thinking | Graphic  Line  Drawing | Divergent  Thinking | Three  Dimensional  Artifact |

**Frontality and Entrance:**

The building has several fronts and entrances. Entrances include house, studio and garage, each with pedestrian and vehicular components. Student should examine differences of each in establishing aspects of front and entrance

**Context and fit:**

1. The site has no contextual constraints.

**Additional Rules/Constraints:**

1. Project must have first and second floors
2. Draw closets, mech. rooms and toilet/lav. rooms as solid boxes
3. No symmetrical projects
4. No real doors and windows, no gable or hip roofs
5. Aesthetic should be based on elements used on Projects 1-4

(THIS IS NOT A REAL HOUSE – it is a platform to apply concepts and processes).

**Submission requirements:**

Paper Presentation Submission Requirements:

Project 5: House and Studio for a Painter

Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Start of Class

NO LATE SUBMISSIONS/PRESENTATIONS ACCEPTED!

Items shall include:

1. Rank, sort and narrative ideas
2. Diagram showing spaces and circulation with site.  Diagrams should incorporate concepts from previous projects in addition to the formal ordering principles covered.
3. First and Second Floor Plans
4. 2 Elevations (min.)
5. 3 exterior 3-D views (min.)
6. 3 interior 3-D views (min.)

Max of 6 sheets

Please be prepared to give an oral presentation, with computer and projector, of your project on that date.

No late submissions accepted, all students must present on the due date unless there are mutually agreed upon reasons why you cannot attend.  Failure to present and submit printouts will result in a zero on the project.