Assignment A04 – Low-Energy Building Precedent
ARCH 3502
Instructor: Glenn Hill

TASK: Develop a poster analyzing how the architect’s used the envelope of the building to provide Shading, Cooling and Lighting.

Precedent Studies

1. Research in the library and on the web to find architectural precedents for the following matrix. You may use a separate precedent for the Shading and Lighting examples, but the analysis must include the Envelope and Interior systems of the same building.

<table>
<thead>
<tr>
<th>Envelope System</th>
<th>Shading</th>
<th>Lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aesthetic</td>
<td>Aesthetic</td>
</tr>
<tr>
<td></td>
<td>Tectonic</td>
<td>Tectonic</td>
</tr>
<tr>
<td>Interior System</td>
<td>Aesthetic</td>
<td>Aesthetic</td>
</tr>
<tr>
<td></td>
<td>Tectonic</td>
<td>Tectonic</td>
</tr>
</tbody>
</table>

2. **Lighting** - How the envelope and interior systems are designed to assist in providing daylighting for the building? Include how the artificial lighting is integrated with the daylighting.

3. **Shading** - How the envelope and interior systems are designed to assist in providing shading for the building?

4. **Aesthetic & Tectonic** - How the architect used the Envelope and Interior systems to create a Tectonic aesthetic?

5. The architectural examples must be a located in a located in an International Energy Conservation Code (IECC) **Climate of 2, 3 or 4**.

Remember the emphasis is on the analysis. This is not a report on WHAT the architect did, but analysis of HOW he achieved the Shading and Daylighting of the building. The data and information you collected from your research should be developed into an analysis that explains the how the envelope and interior systems Shade and Light the building.
Poster Guidelines:

1. Divide a 33” x 33” sheet paper into four quadrants. Use either in Adobe Illustrator or your graphic program of choice to develop a poster of your precedent analysis.
2. In each quadrant develop a graphic and verbal analysis of your research, using images, diagrams and drawings that communicate the aesthetic and tectonic of the Envelope & Interior Systems and how they are used in conjunction with each other to shade, cool and light the architecture.
3. The poster will contain all the critical information and analysis to understand the Envelope (enclosure) and Interior Systems and their tectonic driven aesthetic.
4. Annotate your images, drawings and diagrams to relate them to your analysis.
5. All drawings and diagrams must be your work. You may copy existing ones but they must be redrawn by you. You must cite the source of any information you trace.
6. All sketches and diagrams must be hand-drawn.
7. All images, diagrams and drawings shall have a title, description and citation.
8. You must cite all sources for your images, drawings and diagrams unless they are your work product. (Example Citation: “Diagram by Glenn Hill based on Allen & Iano, Design Studio Companion, page 43, Wiley Publishing, 2003.”)
9. All images shall have a title, citation and a short description communicating the relevance of the image to your analysis.
10. Provide a 250 word (1 paragraph) summary of your analysis. Keep all other written descriptions to a minimum (1 sentence).
11. Include the complete bibliography used to develop this analysis. (All books, journals, websites, etc.)
12. The poster shall be composed, using good principles of graphic design.
13. Compose the poster in the digital graphics program of your choice (Illustrator, CorelDraw, AutoCAD…). Scan your analog diagrams to include them into the poster.
Grading Criteria Rubric and Criteria:

Your Project will be graded on the grading rubric listed below using the attached Grading Sheet. Please make sure you study the Grading Criteria on the attached Grading Sheet.

4 - **Superior/Excellent** - Accurate and complete work that **exceeds** the level and requirements requested by the instructor in multiple areas. **Consistently** showing scholarly initiative, innovation, attempts, discrimination and discernment.

3 - **Above Average** - Accurate and complete work meeting the requirements of the instructor, and **exceeding the level requested in a few**. **Often** showing scholarly initiative, innovation, attempts, discrimination and discernment.

2 - **Average** - Accurate and complete work meeting the requirements of the instructor **and requiring minimal corrections**. Work satisfactory, but needs improvement. **Inconsistently** showing scholarly initiative, innovation, attempts, discrimination and discernment.

1 - **Unsatisfactory** - Work that is **often inaccurate or incomplete**, not meeting the minimum requirements of the instructor. **Rarely** showing scholarly initiative, innovation, attempts, discrimination and discernment.

0 - **Unacceptable** - work that is unacceptable therefore not defined.

Project Grades will be determined by the Grading Criteria listed on the ATTACHED Grading Sheet. You will receive points for each category ranging from 0 – 4 based on the rubric above.

**SCHOLARSHIP**

Among the criteria for your grade there is one called Scholarship. Scholarship is “the methods, discipline, and attainments of a scholar”. Specifically in this context it is the scholarly attributes of a good student. Below are the seven scholarly attributes of a student and their definitions, which will be the basis of this portion of your grade.

- **Initiative** is the readiness and ability in initiating action without-out prodding.
- **Class participation** is the taking part in the class, as in some action or attempt.
- **Exploration** is the careful systematic investigation of the unknown.
- **Innovation** is the introduction of something new resulting from study and experimentation.
- **Attempts** are making an effort to perform, make, or achieve results multiple times.
- **Discrimination** is the act of making fine distinctions between alternatives.
- **Discernment** is the act of using discrimination and judgment to identify the appropriate alternative in a given situation from a variety of options.
- **Critical Thinking** – “Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.” (The National Council for Excellence in Critical Thinking)
ASSIGNMENT GRADING SHEET:

NAME: ________________________________________________________________

DATE: ___________ - ___________ - ___________  GRADE: ________________

A04 - Low-Energy Building Precedent.

Your grade will be determined by the five (5) separate categories listed below. You will receive points for each category ranging from 0 - 4. How many points you receive will be based on the grading criteria and rubric from the previous page.

<table>
<thead>
<tr>
<th>Category</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPOSITION</td>
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<tr>
<td>ANALYSIS</td>
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<tr>
<td>CONTENT</td>
<td></td>
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<tr>
<td>SCHOLARSHIP</td>
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</tbody>
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16 - 99 = A+  12 - 86 = B  7 - 72 = C- 
15 - 96 = A  11 - 84 = B  6 - 65 = D 
14 - 92 = A-  10 - 82 = B-  1, 2, 3, 4, 5 - F 
13 - 88 = B+  09 - 78 = C+  10, 20, 30, 40, 50 
08 - 76 = C 

COMPOSITION:

The organization or grouping of the different parts of a work of art so as to achieve a cohesive and unified whole.

Dominance  Contrast  Clarity  Balance  Readability  Emphasis

ANALYSIS:

The process as a method of studying the nature of something and determining its essential features and their relations.

Technology  Tectonic  Aesthetics  Strategy

CONTENT:

The quality, relevance and presence of items or topics required in the composition.

Diagrams  Drawings  Sketches  Images  Annotations  Text  ETC....

SCHOLARSHIP:

The scholarly attributes of a good student

Discrimination  Initiative  Participation  Discernment  Exploration  Innovation  Attempts  Critical Thinking
PREVIOUS COMMENTS

The following comments are issues found in previous submittals which reduced the overall quality of the assignment.

1) No Analysis – How do the Envelope and Interior Systems work.
2) Titles + Description + Citation.
   a. All images, diagrams and sketches shall have a title, citation and a short description communicating the relevance of the image to your analysis.
3) Annotation / Labels on Graphics.
4) No Floor Plans – North Arrows
5) No or inadequate Sections or Walls sections.
6) Graphic Quality of Diagrams and Sketches. Look at graphics in books for style and examples.
   a. Line Weights – at least three distinct levels of line weight. Light(fine), Medium, & Thick.
   b. Use color only to accentuate or represent.
      i. Green – Grass
      ii. Yellow – Sun.
      iv. Blue – Cold.
      v. Orange – Transition between Hot & Cold.
7) If an image is not being shown to explain how the building heats, cools, and lights itself then you should replace it with one that does. One image solely to communicate aesthetics is enough.
8) Annotate your images. Use them to help you explain how things work and what they look like.