Interior Architecture College of Fine Arts School of Art + Design Fall Semester 2015

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### Study Guide for Exam 2: Monday, September 21

Exam 2 will cover everything that has been presented in class on the power point slide image sets, the two (2) readings assignments, the short videos that are embedded in the power point sets, and everything that I have stated in lecture and discussion.

#### This includes:

- 1. A Vocabulary of Design 1 (Power Point slide set)
- 2. A Vocabulary of Design 2 up to as far as we get on Friday, September 18 (Power Point slide set)
- 4. Videos contained within the Power Point slide sets
- 5. The contents of the assigned reading, "A Vocabulary of Design" pages 120 144
- 6. The contents of the assigned reading, Chapter 2, pages 12 23: "Design Creation of Artifacts in Society" by Karl T. Ulrich

Exam 2 will be multiple choice, approximately 50 questions. Each student will have a paper copy of the exam and a scantron answer sheet.

Bring a pencil for the exam.

Be sure to fill out your **name** and your **PID** number on the scantron sheet.

# 1. A Vocabulary of Design 1

- slides 1, 2: know that professions (such as law, medicine, architecture and others) are often recognized as 'professions' because they have specific and distinct terminology; words that mean something within the professional environment that might be different from common, or 'lay persons' meaning of such terms.
- slides 3 22: understand what a 'concept', a 'parti' and a 'motif' are. know what the differences between these are: a concept is a written or stated idea; a parti is a visual expression of that idea; a motif is a significant repeated form or image within a project.
- slides 23 25: understand what 'descriptive' and 'ideation' drawings are and what the meaning of these two terms is.
- slides 26 32: understand that studying 'architecture' as Form, Material, Function, and Technology is one way to organize, and relate the varied characteristics of a work of design.
- slides 33 35: know who Le Corbusier was; know that he was a very influential 20th century architect
- slides 37 40: know that this furniture, designed by Le Corbusier, was designed in 1929 but that it still looks contemporary to us today
- slides 41 46: know that this church, known as Ronchamp, was designed by Le Corbusier, is made of cast concrete, and was a very, very unusual and visually dynamic building for its time, 1950
- slides 47, 48: know that this small exhibition building is the Heidi Weber Pavilion, located in Zurich, Switzerland; designed by Le Corbusier in 1964. It is a beautiful, jewel, of a building with a clear expression of structure and content; the roof structure is visually and physically separate from the gallery spaces below.
- slides 47 51: know that these buildings, designed by Le Corbusier, were all very strong expressions of form, of material, of function, and of construction technology.
- slides 53 57: know that the pyramids are in Egypt, and date from approximately 2,500BC
- slides 58 61: know that the ancient Greek temples were made of stone, had 3 distinct different column designs; doric, ionic, and corinthian.
- slide 58: know that a primary reason for the distance between columns in this and other Greek temples like it, was the limitation of stone block sizes used as 'beams' above; the pieces of stone could only be as large as was physically possible to lift, which meant that the beam length determined how far apart the columns could be.

- slides 62 75: know that the Gothic cathedrals used flying buttresses as structural components, know that all European Gothic cathedrals have their entry doors facing West and that the plan of the cathedrals are almost always cruciform in shape.
- slide 63: from the video 'Gothic Cathedrals: An Introduction..." know that it was the Abbot Suger (pronounced 'su-jer') who is credited with building the first truly gothic cathedral; the cathedral at St. Denis, just north of Paris, completed in 1135 AD.
- slide 65, 66: know that these vertical section drawings explains how the flying buttresses function.
- slides 67 72: know that the interior ceilings of the gothic cathedrals are held in place by using vaults made of stone pieces.
- slide 72: know that in all gothic cathedrals the stained glass windows, (shown in this photo very dramatically in Sainte Chappelle, in Paris) can only exist in such large sizes because of the structural innovation of the flying buttresses.
- slide 79, 80; know that Lincoln cathedral, in England, is one of the largest and grandest of the English Gothic cathedrals.
- slides 81 88: know that the French palaces were often set in landscapes that were carefully designed and constructed with plants shaped and trimmed to specific geometric forms, and that this type of landscape is called 'par terre'.
- slides 90-94: know that the Crystal Palace was designed by Joseph Paxton, and built in 1851.
- slides 91,92: know that the Industrial Revolution was a time in the western world when machines became the primary components in the manufacturing of goods and products. Steam powered engines, fueled by coal, now made mass production of all sorts of goods. from consumer goods, to industrial components possible.
- slides 100 106: know that the Eiffel Tower was designed by Gustav Eiffel, an engineer, that it was built in 1889, and that it is 986 feet tall. Know that at the time it was built the Eiffel Tower was disliked by the people of Paris; so much so that there were calls for it to be demolished after the exhibition for which it was built was over.
- slide 107: know that in the design and construction of architecture and interiors the specific materials used to make or build something have a significant influence on how it looks.
- Slide 108-114: know that this aqueduct, built in 1795, is a structure that is significant because of its size and its use of materials; cast iron and stone.

- slides 115 119: know that cast iron facades were made possible by the technological advance of being able to cast iron into molds.
- slides 120 130: know that the Guaranty Building is located in Buffalo, NY, and that it was designed by Louis Sullivan, in 1896.
- slide 120: know that Louis Sullivan designed the Guaranty Building with a distinct visual base, a middle and a top. This represents his thinking about how a building should be presented in the public domain, namely, with clearly distinguished portions.
- slide 121, 125, 126: know that terra cotta is the material used by Louis Sullivan to make the extensively used ornamental blocks that virtually cover the exterior of the building. know that 'terra cotta' means 'baked earth.'
- slides 131-136: know that the Chrysler Building was built in 1930, and that it is famous for its stainless steel Art Deco spire. know that the lobby of the Chrysler Building is richly covered with colorful marble and Art Deco design light fixtures and elevator doors and frames.
- slides 138, 139, 140: know that skyscrapers are often constructed with a 'curtain wall' for the exterior, facade of the building.
- slide 143: know that skyscrapers require these components; without these the tall, multifloor buildings cannot work for human beings.
- slide 144: know that Henry Bessemer invented the process to make steel, in 1855. Steel is an alloy, an altered and refined form of iron, but it is stronger, and more durable than iron.
- slide 145: know that most of the world's steel is manufactured in the industrialized nations of the world where the majority of products are made.
- slide 146, 147, 148: know that the process of 'extruding' is how a great number of building products, such as pipes, tubing, gaskets, and more, are manufactured. know that 'extruding' requires a die (a form) that shapes material as it is pushed through.
- slide 150: know that the process of making steel is an enormous, high energy, highly invasive process that requires mining ore from the earth and very high energy processing of that ore.
- slide 153: know that the Tacoma Building, in Chicago, was the first true 'skyscraper' and that it was built, constructed by, George Fuller.
- slide 156, 157: know that the John Hancock tower, in Chicago, is famous for its expressed 'X' shaped structure.
- slides 135-137: know that the Burj Khalifa is the tallest man made structure in the world

today, standing 12,722 feet (829.8 meters) tall.

# 2. A Vocabulary of Design 2

- slides 3 7: know that the ancient Egyptians did not have many possessions, including furniture, and most of what remains today has been taken from the tombs of the royalty, such as King Tutankhamen (known to us casually as 'King Tut')
- slides 9 10: know that the Klismos chair originated in ancient Greece, and that replicas are made today simply because people find it an appealing chair.
- slide 17 -18: know that medieval furniture (900 1500 AD) was generally rough, heavy, and when metal fittings were used, they were also rough and fairly crudely made.
- slides 19 28: know that as the European Renaissance evolved, the techniques and tools for used in making furniture became increasingly refined, which resulted in more delicate and intricate furniture design.
- slides 29 35: know that as the Industrial Revolution developed the objects and machines that were created began to influence both the production of materials and products and the Aesthetic sensibility of the time; machines came to be seen as 'beautiful' because they represented a combination of function, efficiency, and form.
- slides 36 44: know that the Industrial Revolution was a time of great technical advances, but also a time of great social discontent, especially because of the very poor working conditions in the factories and machine dominated workshops that employed women and children.
- slide 41: know that Charles Babbage invented one of the first computers, of a sort, and that it is called the Babbage Engine. The actual, physical machine was not built until 2002.
- slide 45 52: know that the Arts and Crafts movement led to Gustav Stickley's creation of his furniture company, which produced what are now seen as classic examples of Arts and Crafts furniture. The Stickley furniture company is still making furniture in New York state today.
- slide 53: know that Le Corbusier created the expression "A house is a machine for living." know that this was meant to describe the house as an efficient, ordered, and well functioning place, just as a machine is.
- slides 54 58: know that the Modern architects' approach to architecture and design was to strip away unnecessary ornament, to expose the actual construction materials used, and to use simpler geometric shapes in creating the forms of their buildings.
- slides 59 62: know that this house is the Farnsworth House, designed by Mie van de Rohe, in 1949, and that it is an excellent example of Modern, and International Style, architecture.

slides 63 - 107: understand that looking at buildings, interior spaces, and specific works of small scale design, such as furniture, can be done analytically, by using 'tools' such as point, line, plane, and volume. looking at the world around us in a discerning, and analytical way, can open up, reveal, relationships, connections, and a sense of 'meaning' in the design of these spaces/places.

slide 98: know that there are basically three (3) kinds of visual images: Natural forms, Non-Objective forms, and Geometric forms.