ARE 361: Fundamentals for Lighting Design
HW #5: Lighting Design Process
Assigned: Period 5.1
Due: Period 6.1

BACKGROUND
Lighting design is the process of integrating light into the fabric of architecture. Whether the space to be lighted is a restaurant, a courtroom, an art gallery, a retail store, a house of worship, or an office, the process is the same.

A common mistake is to select lighting equipment too early in the process. While equipment is an important part of lighting design solutions, equipment should not drive design. Equipment selection should be toward the end of the design process, selected to support space functions and the desired patterns of shade, shadow, highlight, form, texture, and ambiance. To conceptualize and realize successful lighting design outcomes, we first decide what is to be illuminated. It follows that in learning the design process, our emphasis will not initially be on what makes the light, but on which objects and surfaces receive the light.

LEARNING OBJECTIVES
Upon completion of this exercise, you should be able to:
• Explain some of the things that lighting designers do.
• Recall the steps in the lighting design process and be able to describe each step in the process.
• Apply the early steps of the lighting design process to an interior space that is familiar to you, such as your kitchen, living room, bedroom, or bathroom.

LEARNING BY WATCHING AND READING
Watch these videos, created by Sam Koerbel of Lytei.

LD2020 Preview: The One Thin People Don’t Know About Lighting Design
https://www.youtube.com/watch?v=wCI9GmuqxDs
[5 minutes, 12 seconds]

LD2020: A Story about Lighting Design
https://www.youtube.com/watch?v=2ezo09RHnQ0
[12 minutes, 16 seconds]

Watch this video by The Lighting Practice.

Telling a Story with Light
https://www.youtube.com/watch?v=mME4hkzyrco
[1 minute, 30 seconds]
Read Chapter 8 Design Process from Lighting for Interior Design by Malcolm Innes, which is posted to Canvas. This chapter includes a succinct overview of the lighting design process and a case study for how the process was implemented for St. Machar’s Cathedral.

There are two other resources posted to Canvas that deserve some attention. Chapter 4 Design of the Luminous Environment from the book Perception and Lighting as Forgivers for Architecture by William Lam was published in 1977. While there are aspects of the chapter that are dated, it also contains insights not otherwise in available in print. Please read Lam’s documentation of the process for designing the Washington, DC subway system, beginning at the top of page 87 through the top of page 90. Please also study the rules of thumb for good design on pages 97 to 99. These 6 pages contain timeless wisdom.

Chapter 9 A Basic Approach to Lighting Design is from the book Lighting Design Basics by Mark Karlen and James Benya. This is a well-organized and succinct (7 pages) description of the lighting design process, focusing on engineering criteria. Compared to Innes and Lam, Karlen and Benya have placed less emphasis on lighting quality factors.

Collectively, I hope the videos and readings provide useful guidance about what lighting designers consider when designing lighting solutions. You might recognize that you’ve not yet learned all that you need to know to make informed decisions at each step of the lighting design process. That is okay! If you choose to pursue lighting as a career path, then Lighting II and III and your senior project will fill many of the gaps. Naturally, learning does not end with a university degree; after graduation you would continue to learn from colleagues and through experience.

DELIVERABLES
Since the below question are open-ended, please consider this guidance about expected answer length. Question (1) can be answered with no more than a half page. Question (2) should fit on one page. Question (3) through (6) should fit on two pages. Content is more important than length; be as succinct as possible.

1. Reflect on and write down your reactions to the Lytei and The Lighting Practice videos. Succinctly describe what you have learned about what lighting designers do. What was the most memorable part of the videos?

2. Refer to the three readings and your class notes to construct a flowchart of the lighting design process. Succinctly describe each step in the process (e.g., a few bullet points for each of the major steps in the process).

3. Pick a room that you are very familiar with—it could be your kitchen, bathroom, bedroom, or living room. Write a brief programming brief. What are the primary activities? What are the visual tasks? What are the opportunities for emotional and aesthetic reinforcement? Should the space evoke a certain feeling? Should the space evoke different feelings at different times or for different functions?

4. Continuing from your programming brief, imagine and write down which surfaces or objects should be the primary receivers of light. Note that the room may benefit from more than one scene. For example, a kitchen table may be used for homework or for
intimate dining, activities that would benefit from different lighting. Incorporate your understandings of the layering concepts of Richard Kelly and the psychological reinforcement concepts of John Flynn. At this point, you should not be considering lighting equipment. Focus only on the effects of light.

5. Draw a three-dimensional wireframe of the room. You could do so by hand, or by using Revit, SketchUp, or similar. Use a pencil (or ink, or Photoshop, etc.) to shade the room as you imagine it. Make a point to overemphasize which surfaces or objects are the primary receivers of light and which surfaces or objects will be left in comparative darkness. Again, focus only on the effects of light with no regard to lighting equipment.

6. As a last step in this process exercise, think about what lighting equipment could be used to realize your vision. Do you need wall sconces, directional luminaires with careful aiming, uplights mounted on the floor, task lighting for visual work? Would architectural modification help achieve your vision, as with a cove, wall-slot, or valence? Do you need different scenes for different times of day or different activities? Write down your thoughts about lighting equipment.

Organize your responses to the questions into a single document (such as a PDF) and upload to Canvas.