

Interior Architecture

Ohio University

College of Fine Arts

School of Art+Design

ART 2640, Building Systems of Interior Environments

Fall Semester 2020

Tuesdays & Thursdays 10:30-11:50

Online

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Luminaire Design Assignment

Due: Tuesday, December 8: 10:10am: (*The Final Exam Time for this class*)



You are to design, and construct a luminaire. You are to also provide a written description of your concept, how you developed the luminaire from your concept, the quality of light you are trying to achieve with the luminaire and the relevant photometric data of this luminaire. This data could include lumen output, CRI, lamp life, degrees of beam spread and lumens per watt efficacy.

When completed, the luminaire is to be photographed in both an 'on' and an 'off' state. Be sure the images of the 'on' luminaire are taken in room darkened conditions so as to be able to demonstrate the illumination capability of the luminaire.

The Luminaire must:

- Illuminate (work). Test it multiple times before final submittal/photographing.
- Not short out, trip a breaker, or cause a fire.

- Meet all safety (fire) codes required by federal, state, local and university standards. Research these as needed.
- Properly house (cover) all electrical components to prevent electrocution (shock) of individuals. Use plastic wire nuts for electrical wiring purposes, not electrical tape.
- Not house more than a **25-watt LED lamp** or **compact fluorescent lamp**.
 - Halogen and Incandescent lamps will not be accepted due to heat buildup and fire risks.
 - HID and Cold Cathode Lamps will not be accepted due to initial cost and complications of application.

The Luminaire Design is to include:

- Have a set of *schematic* drawings (min. of 3: plan, section, and elevation) including annotation (written explanatory, descriptive notes about how you made it). These are to be sketches, or more formal drawings, that show your luminaire in plan, section, elevation view.
- Have a concept and development statement and relevant photometric data.
- Meet end-user needs as described in the functional description below.
- Have original design components, meaning:
 - Do not merely copy an existing luminaire design.
 - You may use existing electrical parts or objects but must incorporate them into your new design.
 - You may purchase a 'lamp kit' from a retail shop and use that as the electrical foundation for the luminaire.
 - Be sure to consider human scale for overall design of luminaire.
 - Make your own shade/housing: **Do not use an existing, manufactured, shade, even if you alter it.**
 - Be designed as task lighting: may be suspended from above, wall mounted, or sit directly on a work surface.
- The presentation of this luminaire is to be done as a pdf document that contains the photographs of the luminaire, the written description as described above, and the drawings as described above.

Tools and Materials Needed May Include:

14 gauge lamp cord, approximately 6 feet.

Wire nut connectors, approximately 4 of these will be needed

Selected lamp type

Matching base with or without integral switch

Screw driver

Wire cutter

Other materials based upon your specific design of the luminaire

NOTE:

Use materials and methods of 'making' that you are comfortable with and that make sense for a project of this nature. DO NOT, for example, expect to cast bronze to make a base for your luminaire. Casting bronze is a hugely complex process and well outside of the scope of this project.

End-User possibilities for Luminaire Design Project.

1. ***Design student within a design studio space (yourself).*** This luminaire design needs to consider the needs of a design student using the light for various tasks on a studio table setting. Research these needs and consider all aspects of design and how they can be used to meet the needs of this design student (yourself).
2. ***Study environment in a library.*** This luminaire design needs to consider needs of individuals in a public library space who would use this light for reading and studying. Research these needs and consider all aspects of design and how they can be used to meet the needs of a study space in a library.
3. ***Art gallery reception desk.*** This luminaire design needs to consider the needs of a receptionist at a contemporary art gallery who will be using the light source as task lighting that will not directly affect light within the gallery spaces. Research these needs and consider all aspects of design and how they can be used to meet the needs of a contemporary art gallery reception desk.
4. ***Restaurant Table luminaire design.*** This luminaire design needs to consider the needs of dinners in a restaurant where overhead lighting is limited and a table luminaire design is required. Research these needs and consider all aspects of design and how they can be used to design a tabletop luminaire for a restaurant