



Project 1: Build a Luminaire

Objective: This project aims to help students develop an awareness of issues relating to the design and fabrication of luminaires. Additionally, it reinforces lighting metrics, how light behaves, is controlled, and ultimately what constitutes a good design.

Instructions: You must design and build a mock-scaled version of your Luminaire. Designs must be original and not a copy of an existing design in the market. Your proposed Luminaire will be subject to instructor approval. Allotted during class may be provided and is subject to available workspace; however, students are expected to work on their Luminaire outside class as homework.

Materials: You may use any combination of materials you choose, but **Sustainability** must be the focus. It is suggested that the base materials be sturdy enough to handle reasonable transport. Shades must be constructed by you and not premade. You may purchase a complete wiring assembly from any electrical supply, supplier, or home improvement store. Once your sketches are fully completed, you will need the Instructor's approval to continue the final phase of your project.

____/10 pts. Phase I: Schematics

- ____/5 pts. Students are to research the internet for (3) Luminaire references.
- ____/5 pts. Utilizing the (3) reference drawings as inspiration, Students will sketch a minimum of (3) versions of a new Luminaire using **hand drawing and rendering tools** (Colored pencils, charcoals, markers, and or watercolors). A combination of (2) drawing and rendering techniques is required.
- From the various drawings completed by the student, both the student and Instructor will determine the best option to move forward with the Luminaire project.

____/15 Pts. Phase 2: Design Development

- Students may choose Revit or CAD to detail the Luminaire drawing.
 - Drawing requirements:
 - ____/5 pts. Plan View with dimensions and callouts: Scale 1/4" = 1'-0

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- ____/5 pts. Detailed Elevations with dimensions and callouts:
(1/2" = 1'-0")
- ____/5 pts. 1 Rendered perspective: Not to Scale

____/15Pts. Phase 3: Tear Sheet

- Students shall complete a fully specified **tear sheet/specification sheet**.
 1. ____/2 pts. Perspective rendering of your fully specified Luminaire.
 2. ____/2 pts. Overall dimensions of the Luminaire.
 3. ____/2 pts. List of Materials being used in the construction of the Luminaire and any optional materials it comes in.
 4. ____/2 pts. Estimated weight of Luminaire for shipping purposes (accuracy in terms of weight is not being graded, only that you considered it and came up with your best estimate).
 5. ____/2 pts. Relevant information on the type of light source (Chromaticity, CRI, etc.)
 6. ____/2 pts. Creative composition of specification.
 7. ____/3 pts. Resale Value.

____/30 Pts. Phase 4: Prototype

- Once Phase 2 has been completed to the best of the student's abilities, the students will begin choosing appropriate materials and constructing a prototype model.
 1. With the Instructor's approval, the students shall identify all appropriate materials to construct a prototype.
 2. Students must integrate reusable/sustainable materials into this project.
 3. The student must manually construct their Luminaire individually. The student may request guidance from other students, but the work must predominantly be the student's work.
 4. Photos must be taken of the construction process. No minimum number of photos is required, but enough to show a transparent and distinguishable process.

____/30 Phase 5: Completed Project Presentation

- Students will gather all information, fully construct a prototype, and generate a PowerPoint Presentation that accurately communicates the student's unique

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and cutting-edge luminaire design. The following are the requirements for the presentation

- ____/5 pts. Programming
- ____/5 pts. Design Concept
- ____/5 pts. Schematics
- ____/5 pts. Design Development
- ____/5 pts. Final Project Aesthetics
- ____/5 pts. Overall Presentation

Deliverables include the following:

1. ____/20 pts. Schematics (3 Minimum Sketches)
2. ____/30 pts. Design Development (Computer Drawings)
3. ____/15 pts. Completed Tear Sheet: (7) items listed above.
4. ____/25 pts. A Prototype or Fully Constructed Luminaire.
5. ____/10 pts. A Final Presentation

Total ____/100

Extra Credit: Students will be given extra credit for the following Items:

1. A full scale fully contracted and working Luminaire prototype — 10 pts
2. A 750 detailed Word analysis of the student's process in completing the Build A Luminaire project — 10 pts.
 - It Must be written in either MLA or APA last format.
 - Font to be 12 pt. Century Gothic
 - Images are required.
 - It must be structurally correct.
 - It must contain a cover page.

***Note:** Students may choose to participate in extra credit assignments 1 or 2 but not both.