

Assignment 01 – Principles of Interior Lighting Design



Lighting design is the process of creativity using the qualities and functions of light to affect people, objects and space. The qualities of lighting are intensity, form, colour and movement. The functions of lighting are visibility, mood (atmosphere), composition and motivation.

Objective

To develop a better understanding of the basic principles and technical requirements of interior lighting design.

Methodology

This assignment is intended to strengthen what you have learned during the lectures, by investigating the related topics further and by relating your learning to practical situations. Students are recommended to apply the knowledge and information obtained from the lectures to critically assess the applications in real life.

Each student shall carry out the investigation of interior lighting design in a real building space (e.g. university classrooms, retails, restaurants, shopping malls, offices, library). You may choose any interior lighting design or space that you find interesting. By using personal observations and technical analysis, you shall evaluate the characteristics of the visual environment and the key design factors of the lighting system. The space being investigated may have both natural and artificial light sources, or only one of them.

Report Submission

Each student shall prepare a technical report of not more than twenty (20) A4 pages to explain the findings of the investigation in a systematic and logical manner. The contents of the report shall address the following aspects. Other important issues may also be included.

- (a) Description of the building space
- (b) Characteristics of the visual environment

- (c) Major functions and goals of the lighting system(s)
- (d) Key factors affecting the lighting quality and design parameters
- (e) Types of lighting methods, lighting controls and design criteria
- (f) Types of light sources and luminaire design arrangements
- (g) Recommendation(s) for enhancement or improvement (if any)

Detailed calculations and technical information are not required, but essential data, diagrams and photos of the space and the lighting system are useful to effectively present the findings and enhance the understanding. If appropriate, a list of references and proper citations should be provided to avoid plagiarism.

The report shall be submitted in electronic PDF format. The assessment criteria of the report include quality of the content, organization, clarity of thought, and report writing skills. The report will be evaluated on synthesis of information during the course and from your own reading/study, and evidence that you have thought about the subject and the lecture topics in some depth. A clear structure and a logical argument is important and you should provide evidence of critical thinking, originality and effective writing.

Useful References

- IESNA, 2011. *The Lighting Handbook: Reference & Application*, 10th ed., Illuminating Engineering Society of North America, New York, N.Y.
- Karlen M., Benya J. R. & Spangler C., 2012. *Lighting Design Basics*, 2nd Edition, Wiley, Hoboken, NJ.
- SLL, 2018. *The SLL Lighting Handbook*, Society of Light and Lighting (SLL), London.
- SLL, 2012. *The SLL Code for Lighting*, Society of Light and Lighting (SLL), London.
- van Bommel W., 2019. *Interior Lighting: Fundamentals, Technology and Application*, Springer International Publishing, Cham.

Lighting Design Handbooks:

- Handbook of Lighting Design (ERCO Edition)
<https://download.ercos.com/en/media/handbook>
- The Lighting Handbook (Zumtobel)
<http://www.zumtobel.com/PDB/teaser/EN/lichthandbuch.pdf>