LIGHTING ENGINEERING MODULE: COURSE A

General information

Name : Lighting Engineering (LE)
Credits : 2T+1P (T: theory, P: practice)
Code : DT052
Type : Compulsory
Prerequisite : None
Enrollment : Every 1st semester

Workload

- Lecture : 30 hours
- Practice : 30 hours
- Self-study : 90 hours

Learning objectives

At the end of the course students will be able to:

- Describe the visual and non-visual effects and role of lighting.

- Describe parameters of light, recognize different light sources and luminaires and use it in a lighting installation.

- Measure parameters of lighting installation and calculate the lighting load.

Course content

	Contents
M1.1	Light and Radiation
M1.2	Photometry
M1.3	Colorimetry
M2.1	Introduction to light generation techniques
M2.2	Thermal radiators
M2.3	LP discharge lamps
M2.4	HP discharge lamps
M2.4.1	Gas discharge lamps: Ballasts and drivers
M2.5	Basics of LEDs
M2.5.2	LED drivers and luminaires

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M2.7	Luminaire types and specifications
M3.1	Introduction to lighting design
M7.3	Visual effects of light
M7.4	Non-visual effects of light

Materials

- [1] Lecture slides
- [2] Illumination fundamentals book
- [3] János Schanda, Colorimetry Understanding the CIE System, Wiley-InterScience, 2007.
- [4] Robert Karlicek, Ching-Cherng Sun, Georges Zissis, Ruiqing Ma Handbook of advanced lighting technology, Springer, 2017.
- [5] Robert Simpson, Lighting Control: Technology and Applications, 2003.
- [6] https://edisontechcenter.org/
- [7] https://rangdong.com.vn/

Assessment

- Mini project.

DESL