

## LIGHTING ENGINEERING MODULE: COURSE A

### General information

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

### Workload

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

### Learning objectives

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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

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	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



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

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- [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

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- Mini project.

Written by

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