

Title <b>Basic of light engineering and optical radiation</b>	Code <b>1010321231010320145</b>
Field <b>Electrical engineering</b>	Year / Semester <b>2 / 3</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>2</b> Classes: -    Laboratory: <b>2</b> Projects / seminars: -	Number of credits <b>4</b>
	Language <b>polish</b>

**Lecturer:**

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**Status of the course in the study program:**

Basic obligatory course of the study program in Electrical Engineering Faculty for stationary undergraduate study.

**Assumptions and objectives of the course:**

The student should obtain knowledge in the field of physiology of visual process, measurements of photometry values, characteristic of lamps and their applications

The student should obtain knowledge in the field of optical radiation (thermal, light and UV) methods of generation, propagation and detection; interaction with non-organic and organic matter and its application in engineering.

**Contents of the course (course description):**

Physiology and neurophysiology of visual process, optical components of the eye, basics function of the eye. Basic quantity of photometry and colorimetry. Methods of calculation and measure of photometry quantities. Lamps and luminaires types and characteristics. Lighting system design considerations.

Basics of electromagnetic fields and optical radiation. Methods of generation of thermal light and UV radiation, its propagation and detection. Interaction with non-organic matters (thermal, light and fotochemics effects) and organic substances. Technical applications of optical radiation (optoelectronics). Optical radiation as data medium.

**Introductory courses and the required pre-knowledge:**

Basic knowledge of physics and electrical engineering.

**Courses form and teaching methods:**

Lectures, laboratories.

**Form and terms of complete the course - requirements and assessment methods:**

Exam, Tests.

**Basic Bibliography:**

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**Additional Bibliography:**

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