



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Light in architecture and outdoor space [S2Eltech1E-TŚ>ŚwAPZ2]

### Course

Field of study

Electrical Engineering

Year/Semester

2/3

Area of study (specialization)

Lighting Engineering

Profile of study

general academic

Level of study

second-cycle

Course offered in

English

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

15

### Number of credit points

1,00

### Coordinators

dr inż. Małgorzata Zalesińska

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### Lecturers

### Prerequisites

A student starting this course should have a basic knowledge of lighting engineering. Basic skills in measuring electrical and photometric quantities also in lighting design. The ability to effectively self - study in a field related to the chosen field of study.

### Course objective

To provide students with a detailed knowledge of how to illuminate different workplaces and illumination of objects.

### Course-related learning outcomes

Knowledge:

1. Has ordered and theoretically founded knowledge in the field of lighting design.
2. Has in-depth knowledge of lighting technology in the field of lighting various objects; knows the processes taking place during the operation of lighting devices.
3. Has extended knowledge of computer-aided design in lighting technology.

Skills:

1. Can perform lighting design project and analyze the obtained effects according to physiological, economic and aesthetic criteria.
2. Can design lighting for various objects.

Social competences:

1. Recognizes the importance of knowledge in solving cognitive and practical problems, and understands that knowledge and skills quickly become obsolete in lighting engineering and therefore require constant replenishment.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The skills acquired during the design exercises are verified on the basis of the lighting design of the facility indicated by the teacher and the discussion of the results obtained. Passing threshold: positive evaluation of the completed project.

### Programme content

Psychophysiological, technical, economic aspects of lighting design. Operational changes in lighting parameters. Illumination concept of architectural objects.

### Course topics

Analysis of the technical, economic and psychophysiological conditions determining the choice of lighting systems. Evaluation of changes in lighting parameters over time. Selection of operating and maintenance procedures for lighting equipment. Evaluation of illumination of selected architectural objects. Creating an illumination concept for an architectural object.

### Teaching methods

Practical evaluation of illumination of selected objects in Poznań, presentations multimedia presentations, computer lighting programmes.

### Bibliography

Basic:

1. Pracki P.: Projektowanie oświetlenia wnętrz, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2011.
2. Bąk J.: Technika oświetlania : wybrane zagadnienia oświetlania wnętrz Stowarzyszenie Elektryków Polskich. Centralny Ośrodek Szkolenia i Wydawnictwo, Warszawa 2014.
3. Żagan W. Iluminacja obiektów. Oficyna Wydawnicza Politechniki Warszawskiej (2003).
4. Żagan W., Krupiński R.: Teoria i praktyka iluminacji obiektów. Oficyna Wydawnicza Politechniki Warszawskiej (2016).

Additional:

1. Literature available on the website: [www.licht.de](http://www.licht.de)
2. Teaching materials available on the website: <http://lumen.iee.put.poznan.pl>.
3. Lighting Handbook, Reference & Application. IES of North America, New York 2010.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	30	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50