



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Computer aided design

### Course

Field of study

Electrical Engineering

Area of study (specialization)

Lighting Engineering

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

15

### Number of credit points

1

### Lecturers

Responsible for the course/lecturer:

Sandra Mroczkowska MSc., Eng.

Responsible for the course/lecturer:

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Engineering

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### Prerequisites

The student starting this subject should have a basic knowledge of lighting technology, in particular lighting design and lighting equipment. Student should also be able to obtain information from specified sources and be willing to cooperate as part of a team.

### Course objective

Knowledge of environment, basic tools and possibilities of 3ds MAX program. Ability to create computer visualizations of illuminations.



### Course-related learning outcomes

#### Knowledge

1. has advanced knowledge of lighting technology in the field of lighting design
2. has advanced knowledge of lighting technology in the field of lighting equipment used in the illumination of architectural objects

#### Skills

1. has the ability to formulate conclusions related to engineering problems while designing illumination lighting
2. is able to interpret the results of design work and draw conclusions based on them
3. has the ability to create visualizations of computer illuminations of objects

#### Social competences

1. understands that knowledge and skills in computer visualizations are becoming outdated very quickly

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Skills acquired as part of the subject are verified on the basis of a computer visualization project of the illumination of the selected architectural object. The project includes the ability to model the body of the object, assign specific materials in the scene and the selection and proper arrangement of lighting equipment.

### Programme content

1. Understanding the basic functions of 3ds MAX
2. Understanding the issues associated with creating computer visualizations of object illumination
3. Basics of creating materials and assigning them to individual elements of the stage
4. Performing a visualization of the illumination of the selected object.
5. Use of modern LED luminaires in lighting design

### Teaching methods

1. Multimedia presentation enabling analysis of the applied illumination methods and obtained visualization effects

### Bibliography



Basic

1. Żagan W.: Iluminacja obiektów. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2003.
2. Kelly L.Murdock 3ds MAX 2012 Helion 2012

Additional

1. Lighting Handbook, Reference &#38;#38;Application. IES of Nofth America, New York 2010
2. Górczewska M.,Mroczkowska S., Iluminacja kościoła p.w. Św. Józefa w Poznaniu. Poznan University of Technology, Academic Journals, Electrical Engineering, Issue 83, Poznań 2015, s.229-236, ISSN 1897-0737

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	35	1,0
Classes requiring direct contact with the teacher	20	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	20	1,0

<sup>1</sup> delete or add other activities as appropriate