POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name

Lighting design

Course

Field of study	Year/Semester
Electrical Engineering	2/4
Area of study (specialization)	Profile of study
Lighting Engineering	general academic
Level of study	Course offered in
Second-cycle studies	polish
Form of study	Requirements
part-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
Tutorials	Projects/seminars	
	10	

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

 Przemysław Skrzypczak, Ph. D., Eng.

email: przemyslaw.s.skrzypczak@put.poznan.pl

tel. 61 6652585

Faculty of Control, Robotics and Electrical Engineering

ul. Piotrowo 3A 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

The student starting this subject should have a basic knowledge of lighting technology, in particular lighting design and lighting equipment. It should have basic information about the construction and operation of lighting equipment, taking into account their impact on the environment.

Course objective

Advanced knowledge of the lighting design skills in Dialux 4.XX and Dialux Evo. Detailed knowledge of the principles and methods of designing illumination lighting. Deepening the knowledge of the environment, advanced tools and possibilities of the 3ds MAX program. The ability to create computer

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visualization of the illumination of objects, taking into account the actual lighting equipment. The ability to calculate the luminance distribution on the facade of the illuminated object.

Course-related learning outcomes

Knowledge

Has in depth knowledge of lighting technology in the field of software for lighting calculations

He has in-depth knowledge of lighting technology in the field of designing illumination lighting

Has in-depth knowledge of lighting technology in the field of construction, application and selection of lighting equipment used in the illumination of architectural objects

Skills

Has the ability to use lighting calculation programs, formulate hypotheses and conclusions related to engineering problems resulting from a given design task

He can work individually and in a team, carrying out project tasks within the set deadline

Has the ability to create realistic computer visualizations of object illumination based on real photometric files, taking into account aesthetic, functional and economic criteria

Social competences

Is aware of the need to develop professional achievements and adhere to the rules of professional ethics,

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The skills acquired within the course are verified on the basis of projects

- lighting of outdoor space and indoor work space

- the concept of computer visualization of illumination of a selected architectural object, based on selected methods of illumination.

Programme content

Expanding knowledge in the field of lighting design, design documentation and lighting calculations in Dialux and Dielux Evo.

Expanding knowledge in the field of construction, application and selection of lighting equipment used in the illumination of architectural objects, knowledge of the principles and methods of object illumination, creating computer visualizations of object illumination in the 3ds MAX program.

Teaching methods

A multimedia presentation enabling the analysis of the applied methods of illumination and the obtained effects of visualization

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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 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

3. Górczewska M., Mroczkowska S., Skrzypczak P., Oświetlenie rzeźb i pomników, Przegląd Elektrotechniczny, 2/2018 R.94, s.124-127

4. Górczewska M.,Mroczkowska S., Iluminacja rzeźb i pomników. Poznan University of Technology, Academic Journals, Electrical Engineering, Issue 92, Poznań 2017, s.133-142, ISSN 1897-0737

Breakdown of average student's workload

	Hours	ECTS
Total workload	28	1,0
Classes requiring direct contact with the teacher	12	0,5
Student's own work (literature studies, project preparation) [1]	16	0,5

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[1] delete or add other activities as appropriate