STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Fundamentals of lighting engineering		**1010321371010320832**

Field of study	Profile of study (general academic, practical)	Year /Semester
Electrical Engineering	**(brak)**	**4 / 7**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Lighting Engineering	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**full-time**

No. of hours				No. of credits
Lecture: **-**	Classes: **-**	Laboratory: **-**	Project/seminars: **15**	**1**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
(brak)	**(brak)**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**1 100%**
Technical sciences	**1 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Knowledge of the basics of lighting engineering: the calculation and the measurement of light parameters, lighting equipment.
2	**Skills**	The ability to use knowledge in lighting engineering to carry out computations, measurement and evaluation of lighting parameters. Ability to effectively self-education in a field related to the chosen field of study.
3	**Social competencies**	Is aware of the need to broaden their competence, willingness to work together as a team.

Assumptions and objectives of the course:

Grounding knowledge of fundamentals of lighting engineering.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. List and describe the method of calculation of basic lighting parameters. - [[K_W06 ++,K_W14 +, K_W15 +++]]

Skills:

1. Perform calculations of basic lighting simplified methods. - [[K_U17 ++, K_U22 +]]

Social competencies:

1. . Student understands and knows the need continuous training opportunities, improving professional skills, personal and social. Able to work in a group. Able to share and coordinate the work between team members. - [[K_K03 +]]

Assessment methods of study outcomes

Project:
evaluate the knowledge and skills associated with the implementation of the project.
Get extra points for the activity in the classroom, especially for the following:
ability to work within a team performing a task specific practice in the laboratory,
developed aesthetic diligence reports and tasks, the self-study.
Student activity is taken into account when giving a final grade

Course description

Calculation of lumines flux. Determination of illuminance by a point. Calculation of luminance.
Update 2017: Calculation of Circumference Size
Applied methods of education:
Analysis of the results obtained. Discussion of various aspects of solved problems.

Basic bibliography:

1. Bąk J., Pabiańczyk W.: Podstawy techniki świetlnej. Wyd. Pol. Łódzkiej, Łódź 1994.
2. Żagan W.: Podstawy techniki świetlnej. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2005

Additional bibliography:

1. Technika Świetlna '09. Poradnik. Informator. Wyd. PKOś, Warszawa 2013
2. Lighting Handbook, Reference &Application. IES of Nofth America, New York 2010
3. Krzysztof Wandachowicz: Obliczanie rozkładów cyrkadialnych wielkości promienistych we wnętrzach. Prace Instytutu Elektrotechniki, , zeszyt 256, 2012

Result of average student's workload

Activity	Time (working hours)
1. Participation in project activities	15
2. Participation in consultation.	10
3. Participation for colloquium	8
4. Colloquium	2

Student's workload

Source of workload	hours	ECTS
Total workload	35	1
Contact hours	27	1
Practical activities	17	1