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.

Course description

Calculation of lumines flux. Determination of illuminance by a point. Calculation of luminance.

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 2009
2. Lighting Handbook, Reference &Application. IES of Nofth America, New York 2010

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