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	Perform calculations of be	asic lighting simplified methods.	- [[K_U17 ++, K_U22 +]]		
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 +]]	Student understands an	d knows the need continuous train			

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

Faculty of Electrical Engineering

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

Basic bibliography:

- 1. Dybczyński Wł.: Miernictwo promieniowania optycznego. Wyd. Pol. Białostockiej, Białystok 1996.
- 2. Helbig E: Podstawy fotometrii. WNT, Warszawa 1975.
- 3. Laboratorium z techniki świetlnej. Praca zbiorowa. Wyd. Pol. Pozn. nr 1792, Poznań 1989.
- 4. Normy przedmiotowe
- 5. Bąk J., Pabiańczyk W.: Podstawy techniki świetlnej. Wyd. Pol. Łódzkiej, Łódź 1994.
- 6. Żagan W.: Podstawy techniki świetlnej. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2005
- 7. Technika Świetlna' 09. Poradnik. Informator. Wyd. PKOś, Warszawa 2009

Additional bibliography:

- 1. Felhorski W., Stanioch W.,: Kolorymetria trójchromatyczna. WNT, Warszawa 1973.
- 2. Żagan W.: Podstawy techniki świetlnej. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2005
- 3. Lighting Handbook, Reference & Application. IES of Nofth America, New York 2010

Result of average student's workload

Activity	Time (working hours)
Participation in project activities	9
2. Participation in consultation.	9
3. Participation for colloquium	7
4. Colloquium	2

Student's workload

Source of workload	hours	ECTS
Total workload	27	1
Contact hours	20	1
Practical activities	16	1