

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Lighting design		Code 1010321361010326001
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 6
Elective path/specialty Lighting Engineering	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: 30		No. of credits 2
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 2 100% 2 100%
Responsible for subject / lecturer: dr inż. Krzysztof Wandachowicz email: Krzysztof.Wandachowicz@put.poznan.pl tel. 61 6652585 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of the basics of lighting engineering: the calculation and measurement of lighting quantities, lighting equipment and general requirements for lighting design. Basic knowledge of computer science, physics, electrical engineering and illuminating engineering.
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: Understanding the basics of lighting requirements and lighting design methods. Understanding the basics of practical methods of designing lighting systems. Ability to perform the calculation of basics lighting quantities.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Able to characterize and describe the basic computer method of calculating the lighting quantities. - [K_W11 ++, K_W15 +++]		
Skills: 1. Can perform the calculation of lighting quantities using available software. Is able to do lighting project with regard to the requirements of standards. - [K_U13 ++, K_U17 ++]		
Social competencies: 1. Is aware of and understands the importance and impact of non-technical aspects of electrical engineering activities, including the impact of light and lighting on the environment and the consequent responsibility for decisions. Can work in a group. Can coordinate the work between team members. - [K_K01 ++]		
Assessment methods of study outcomes		
Oral and written examination, laboratory reports.		
Course description		

<p>Calculation of luminance and illuminance distribution in interiors and open grounds. Practical study of using computer software for lighting design. Making some example calculation for the following application fields: offices, educational buildings, industrial buildings, shops and stores, roads, parking, sports facilities.</p>		
<p>Basic bibliography:</p> <ol style="list-style-type: none"> 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. 3. Normy przedmiotowe. 4. Pracki P.: Projektowanie oświetlenia wnętrz. Oficyna Wyd.Politechniki Warszawskiej 2011, ISBN: 9788372079282. 		
<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. Lighting Handbook, Reference &#38;#38;Application. IES of Nofth America, New York 2010 		
<p>Result of average student's workload</p>		
<p>Activity</p>	<p>Time (working hours)</p>	
<ol style="list-style-type: none"> 1. Participation in project activities. 2. Participation in consultations. 3. Preparation of the concept and development of lighting design. 	<p>30</p>	<p>5</p>
	<p>30</p>	
<p>Student's workload</p>		
<p>Source of workload</p>	<p>hours</p>	<p>ECTS</p>
Total workload	65	2
Contact hours	35	1
Practical activities	65	2