

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Computer aided design		Code 1010324291010322818
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 5 / 9
Elective path/specialty Light Engineering	Subject offered in: polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time,part-time) part-time	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: 9		No. of credits 1
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		ECTS distribution (number and %) 1 100%
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 thermokinetics.
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: Knowledge of advanced methods of lighting design. Understanding the basics of practical methods of designing lighting systems using computer aided design (CAD). Ability to perform the calculation of basic lighting quantities.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Able to characterize and describe advanced computer methods of calculating the lighting quantities. - [K_W11 ++, K_W15 +++]		
Skills: 1. Can perform the calculation of lighting quantities using computer aided design (CAD). Able to do lighting design 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 ++, K_K03 ++]		
Assessment methods of study outcomes		
Assessment of the knowledge and skills associated with the implementation of the project.		
Course description		
Understanding the issues related to computer methods of calculate the lighting quantities. Practical test in the use of computer-aided design methods (CAD). Implementation of sample calculations for typical indoor lighting solutions. Visualization of the luminance distribution.		

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.		
3. Normy przedmiotowe.		
4. Pracki P.: Projektowanie oświetlenia wnętrz. Oficyna Wyd.Politechniki Warszawskiej 2011, ISBN: 9788372079282.		
Additional bibliography:		
1. 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.	9	
2. Participation in consultations.	6	
3. Preparation of the concept and development of lighting design.	9	
Student's workload		
Source of workload	hours	ECTS
Total workload	24	1
Contact hours	15	1
Practical activities	24	1