

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Computer aided design		Code 1010321371010322818
Field of study Electrical Engineering	Profile of study (general academic, practical) general academic	Year /Semester 4 / 7
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: 15		No. of credits 1
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 1 100% 1 100%
Responsible for subject / lecturer: mgr inż. Sandra Mroczkowska email: sandra.mroczkowska@put.poznan.pl tel. 660747888 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of the basics of lighting engineering and computer science. Knowledge of basic tools used in 3ds MAX program to create computer visualization of illumination.
2	Skills	The ability to create objects and base of materials in 3ds MAX program. Ability to choose lighting equipment to create illumination of buildings. Ability to create lighting scene and computer visualizations.
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 environment, basic tools and possibilities of 3ds MAX program. Ability to create computer visualizations of illuminations.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Knowledge of basic functions and possibilities of 3ds MAX program - [K_W18 ++]		
2. Knowledge of lighting equipment used to illuminate buildings. - [K_W18 ++]		
Skills:		
1. Can create computer visualization of building's illumination - [K_U03 ++, K_U12]		
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. - [K_K01 ++]		
2. Can work creatively. - [K_K01 ++]		
Assessment methods of study outcomes		
Assessment of the knowledge and skills associated with the implementation of the project.		
Course description		

<p>Understanding the issues related to computer visualizations of building's illumination. 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.</p> <p>Update 2017: Use of modern LED luminaire to design illumination</p> <p>Applied methods of education:</p> <p>Analysis of gained visualisation effects and luminance distribution</p> <p>Comparing the final result of varius illumination variant</p>		
<p>Basic bibliography:</p> <p>1. Żagan W.:Iluminacja obiektów. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2003.</p> <p>2. Kelly L.Murdock 3ds MAX 2012 Helion 2012</p>		
<p>Additional bibliography:</p> <p>1. Lighting Handbook, Reference &#38;#38;Application. IES of Nofth America, New York 2010</p> <p>2. Górczewska M.,Mroczkowska S., Iluminacja kościoła p.w. Św. Józefa w Poznaniu. Poznan University of Technology, Academic Journals, Electrical Engineering, Issue 83, Poznań 2015, s.229-236, ISSN 1897-0737</p>		
<p>Result of average student's workload</p>		
<p>Activity</p>		<p>Time (working hours)</p>
<p>1. Participation in project activities</p>		<p>15</p>
<p>2. Participation in consultation</p>		<p>20</p>
<p>3. participation in projects</p>		<p>15</p>
<p>Student's workload</p>		
<p>Source of workload</p>	<p>hours</p>	<p>ECTS</p>
<p>Total workload</p>	<p>50</p>	<p>1</p>
<p>Contact hours</p>	<p>35</p>	<p>1</p>
<p>Practical activities</p>	<p>40</p>	<p>1</p>