STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Computer aided design**		Code **1010322231010322818**
Field of study **Electrical Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **2 / 3**
Elective path/specialty **Light Engineering**	Subject offered in: **polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **full-time**	
No. of hours Lecture: **-** Classes: **-** Laboratory: **-** Project/seminars: **1**		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:

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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 possibilties 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. Knowledge of lighting equipment used to illuminate buildings. - [KW_13++, KW_18 ++]

Skills:

1. Can create computer visualization of building - [KU_03++, KU_12]

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 creativly. - [KK_01++]

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 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.

Basic bibliography:

1. Żagan W.:Iluminacja obiektów. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2003.
2. Kelly L.Murdock 3ds MAX 2012 Helion 2012

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.	15
2. Participation in consultations.	5
3. Preparation of the concept and development of computer visualization.	15

Student's workload

Source of workload	hours	ECTS
Total workload	35	1
Contact hours	20	1
Practical activities	35	1