

| STUDY MODULE DESCRIPTION FORM | | |
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| Name of the module/subject Lighting engineering | | Code 1010325341010321119 |
| Field of study Electrical Engineering | Profile of study (general academic, practical) general academic | Year /Semester 2 / 4 |
| Elective path/specialty Lighting Engineering | Subject offered in: Polish | Course (compulsory, elective) obligatory |
| Cycle of study: Second-cycle studies | Form of study (full-time, part-time) part-time | |
| No. of hours Lecture: 9 Classes: - Laboratory: 9 Project/seminars: 9 | | No. of credits 3 |
| 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 %) 3 100% 3 100% |
| Responsible for subject / lecturer: dr inż. Małgorzata Górczewska email: malgorzata.gorczevska@put.poznan.pl tel. 61 665 23 98 Electrical Engineering ul. Piotrowo 3A, 60-965 Poznań | | |
| Prerequisites in terms of knowledge, skills and social competencies: | | |
| 1 | Knowledge | Established knowledge base in the field of lighting technology: the calculation and measurement of basic lighting, lighting, lighting design requirements. |
| 2 | Skills | and evaluation of lighting parameters. Ability to effectively self-education in a field related to the chosen field of study. |
| 3 | Social competencies | Awareness of the need to broaden their competence, willingness to work together as a team. |
| Assumptions and objectives of the course: -Knowing the specific lighting requirements, theoretical and practical methods of lighting design. Mastering the skills of project implementation and evaluation of lighting systems for indoor and outdoor use. | | |
| Study outcomes and reference to the educational results for a field of study | | |
| Knowledge: 1. Can introduce the principle of lighting technology for the rational selection and multi-criteria analysis and evaluation of lighting systems technical feasibility and operation - [K_W05++ K_W13+++, K_W18++] | | |
| Skills: 1. He can analyze the possibilities, limitations, and requirements for the selection and design of interior lighting and outdoor lighting - [K_U12+++] 2. Able to develop and introduce energy efficient lighting system with regard to these standards - [K_U13++] | | |
| Social competencies: 1. . Understands the need to know the capabilities and continuous training. Able to work in a creative way. Is aware of and understands the importance and impact of non-technical aspects of electrical engineer operations, including the impact of light and lighting on the environment - [K_K01 ++] | | |
| Assessment methods of study outcomes | | |

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| <p>Lecture: -assessment of knowledge and skills listed on the written test,</p> <p>Laboratory: -assessment of knowledge and skills related to the implementation of the tasks your practice, the assessment report performed exercise.</p> <p>The project: - to evaluate the knowledge and skills associated with the implementation of the project.</p> <p>Get extra points for the activity in the classroom, developed aesthetic diligence reports and tasks within their own learning.</p> | | |
| Course description | | |
| <p>-Quantitative and qualitative parameters of lighting. -Psychophysiological rules, aesthetic and economical in the selection of lighting. -Recommendations and regulatory requirements. -The choice of lighting systems, the selection of sources and luminaires. -Changes during the lighting parameters and operation of the lighting. -Emergency lighting. -Typical solutions in lighting design: for example, office, retail, industrial. -Lighting of roads. -Architectural lighting.</p> | | |
| Basic bibliography: | | |
| <p>1. Philips, Lighting Manual. Wyd.V 1993 r 2. Żagan W.: Iluminacja obiektów. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2003 3. Technika Świetlna 09. Poradnik Informator. Wyd. PKOś, Warszawa 2009 4. Lighting standards</p> | | |
| Additional bibliography: | | |
| <p>1. Lighting Handbook, Reference & Application. IES of Nofth America, New York 2010</p> | | |
| Result of average student's workload | | |
| Activity | Time (working hours) | |
| 1. participation in lectures | 9 | |
| 2. participation in laboratories | 9 | |
| 3. participation in projects | 9 | |
| 4. participation in the consultation | 12 | |
| 5. preparation for and execution of laboratory reports | 8 | |
| 6. realization of the project | 24 | |
| 7. preparation to the exam | 15 | |
| 8. participation in the exam | 6 | |
| Student's workload | | |
| Source of workload | hours | ECTS |
| Total workload | 92 | 3 |
| Contact hours | 45 | 2 |
| Practical activities | 42 | 2 |