STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Exploitation of Electric Power Equipment		**1010311271010316895**
Field of study **Electrical Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **4 / 7**
Elective path/specialty **High Voltage 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: **2** Classes: **-** Laboratory: **-** Project/seminars: **2**		No. of credits **7**
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 %) **7 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student has the knowledge in construction of electric power equipment, as well as transmission and distribution network
2	**Skills**	Student has the ability to effective self-learning in the scope of chosen field of study
3	**Social competencies**	Student is aware of expanding his knowledge, ability, competences, can work and cooperate in group

Assumptions and objectives of the course:

Knowledge of exploitation activity and procedures of equipment working in generation, transmission and distribution of electric power (transformers, cables, capacitors, insulators, switching devices, GIS/GIL)

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Student has extended knowledge in the scope of electric power equipment exploitation - [K_W08+++]
2. Student has systematic and theoretical knowledge in the scope of power grid exploitation - [K_W13++]

Skills:

1. Student is able to prepare the documentation of electric power equipment exploitation - [K_U07++]
2. Student is able to exploit properly the power equipment according to general demands and technical documentation - [K_U23+++]

Social competencies:

1. Student is conscious of importance and results of electrical engineer activity, including the influence on environment as well as proper exploitation of power equipment - [K_K02++]

Assessment methods of study outcomes

Lecture ? evaluation of knowledge and skills proved with exam

Project classes ? evaluation of individually prepared instruction of chosen equipment exploitation, or power grid sector

Course description

The principles of electric equipment and installation exploitation of low, medium and high voltage. Technical-exploitation documentation, taking equipment for work. Exploitation of power generators, transformers, substations, overhead and cable lines, power factor correction capacitors, electric machines, lighting equipment, rectifiers, batteries, diesel generators. Electric shock protection rules. Principles of rational and safe operation of power equipment and installations.

Basic bibliography:

1. Strojny J., Strzałka J., Elektroenergetyka. Obsługa i eksploatacja urządzeń, instalacji i sieci, Europex Kraków, 2003

2. Lenartowicz R., Zdunek W., Egzamin kwalifikacyjny. Urządzenia instalacje i sieci elektroenergetyczne, Medium Warszawa, 2010

3. Inżynieria wysokich napięć w elektroenergetyce, pod red. H.Mościckiej-Grzesiak, Wydawnictwo Politechniki Poznańskiej, tom 1 1996, tom 2 1999.

4. Flisowski Z., Technika wysokich napięć, WNT, Warszawa, 2008.

5. Gacek Z., Technika wysokich napięć, Wydawnictwo Politechniki Śląskiej, Gliwice, 1999.

Additional bibliography:

1. Gacek Z., Kształtowanie wysokonapięciowych układów izolacyjnych stosowanych w elektroenergetyce, Wydawnictwo Politechniki Śląskiej, Gliwice, 2002.

2. Gacek Z., Wysokonapięciowa technika izolacyjna, Wydawnictwo Politechniki Śląskiej, Gliwice, 2006.

Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	30
2. Participation in project classes	30
3. Participation in exam	5
4. Preparation for exam	30
5. Consultations	30
6. Preparation of project	30
7. Preparation for project classes	30

Student's workload

Source of workload	hours	ECTS
Total workload	185	7
Contact hours	95	4
Practical activities	90	3