DESCRIPTION OF THE COURSES

- Course code: ARR 2309
- Course title: Static converters - applications
- Language of the lecturer: polish

Course form	***Lecture***	***Classes***	***Laboratory***	***Project***	***Seminar***
*Number of hours/week**	*2*				
*Number of hours/semester**	*30*				
Form of the course completion	*Pass*				
ECTS credits					
Total Student's Workload					

- Level of the course (basic/advanced): advanced
- Prerequisites: Power electronics
- Name, first name and degree of the lecturer/supervisor: Stanisław Szkółka; Ph.D.
- Names, first names and degrees of the team's members: Józef Borecki, Ph.D.; Waldemar Dołęga, Ph.D.
- Year:..... Semester:.....
- Type of the course (obligatory/optional): optional
- Aims of the course (effects of the course):
- Form of the teaching (traditional/e-learning): traditional
- Course description:

Selected applications of converters in the industry. Series and parallel operation of power semiconductors. Protections. Uninterruptible power supply systems. Static switches. Develop tendency of static converters.

- Lecture:

Particular lectures contents	*Number of hours*
1. Basic AC and DC regulators in the industry	*2*
2. Select conditions of the static converters.	*2*
3. Parallel operation of power semiconductors.	*2*
4. Series operation of power semiconductors.	*2*
5. Uninterruptible power supply systems (UPS) – parallel operation	*2*
6. Uninterruptible power supply systems – fault unit finding	*2*
7. Protection equipment for static converters	*2*
8. Overcurrent protection in power semiconductors.	*2*
9. Overvoltage protection.	*2*
10. Static switches DC current	*2*
11. Static switches AC current	*2*
12. Hybrid switches	*2*
13. Low power converters for supply electric tools, etc.	*2*

14. Reviev of home market static converters	*2*
15. Develop tendency of the static converters.	*2*
16. Pass	*2*

- Classes – the contents:
- Seminars – the contents:
- Laboratory – the contents:
- Project – the contents:
- Basic literature:

1. B.M. Bird & K.G. King „Power electronics“ 1988.
2. A. M. Trzynadlowski, Introduction to modern power electronics; 1998
3. Alain Charoy „ Compatibilité électromagnétique – Parasites et perturbations des électroniques” Dunod, Paris 1992.
4. S. Januszewski, H. Świątek „Nowoczesne przyrządy półprzewodnikowe mocy w energoelektronice“ WNT Waszawa 1994.
5. B.M. Bird & K.G. King „An Introduction to Power Electronics” 1983 by J. Willey & Sons Ltd

- Additional literature:

1. Jayant Baliga, Power semiconductor devices; 1996
2. Laszlo Tihanyi, Electromagnetic compatibility in power electronics, 1995
3. Daniel W. Hart, Introduction to power electronics; 1997
4. Thomas H. Barton, Rectifiers, cycloconverters, and AC controllers; 1994

- Conditions of the course acceptance/credition:

***** - depending on a system of studies