(*faculty stamp*)

COURSE DESCRIPTION

1. Course title: TECHNOLOGIES OF POWER ENGINEERING	**2. Course code**
3. Validity of course description: 2016/2017	
4. Level of studies: 1st cycle of higher education	
5. Mode of studies: intramural studies	
6. Field of study: POWER ENGINEERING	(FACULTY SYMBOL)
7. Profile of studies: general academic	
8. Programme: Sustainable Energy Engineering	
9. Semester: 4, 5	
10. Faculty teaching the course: IMiUE - ZMPiTE	
11. Course instructor: dr inż.Jarosław Dziuba	
12. Course classification: major subjects	
13. Course status: compulsorył	
14. Language of instruction: English	
15. Pre-requisite qualifications: Basic Courses + subjects: Thermodynamics + Fluid Mechanics + Heat Flow	
16. Course objectives: Processes of energy conversion, technologies used in power plants	
17. Description of learning outcomes:	

Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	The student characterizes traditional technologies and energetic processes	Final test after semester.	Lecture	K_W11 K_W17 K_W18
2.	The student makes analysis of power plant cycles	Project comparing different steam power plant cycles	Classes	K_U11, K_U22 K_U23, K_U25 K_U26
3.				
4.				
5.				
6.				
7.				
8.				

18. Teaching modes and hours

Lecture 45 / Class 30 /

19. Syllabus description:

Lecture:

- Fuels and energy resources
- Fuels characteristics
- Energetic systems
- Processes of energy conversion
- Steam power plants and its machines
- Gas turbines
- Gas-steam systems
- Nuclear power engineering

- Renewable sources engineering

Classes:

- Calculations of classical steam power plant
- Calculations of steam power plant with preheating
- Calculations of steam power plant with bleeding

20. Examination: no

21. Primary sources:

1. Chmielniak T.: Technologie energetyczne. Wyd. Pol. Śl., Gliwice, 2008.

22. Secondary sources:

2. Chmielniak T.: Obiegi termodynamiczne turbin cieplnych, Ossolineum, Wrocław 1998.
3. Chmielniak T. I inni: Turbiny gazowe, Ossolineum, Warszawa, Wrocław 2001..

23. Total workload required to achieve learning outcomes

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	45/30
2	Classes	30/40
3	Laboratory	/
4	Project	/
5	BA/ MA Seminar	/
6	Other	0/5
	Total number of hours	75/75

24. Total hours: 150

25. Number of ECTS credits: 5

26. Number of ECTS credits allocated for contact hours: 3

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 0

Approved:

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(date, Instructor's signature)

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(*date , the Director of the Faculty Unit signature)*