

(faculty stamp)

COURSE DESCRIPTION

Z1-PU7

WYDANIE N1

Strona 1 z 2

1. Course title: MODERN POWER ENGINEERING		2. Course code		
3. Validity of course description: from 2012/2013				
4. Level of studies: BA, BSc programme / MA,MSc programme or 1st cycle / 2 nd cycle of higher education				
5. Mode of studies: intramural studies				
6. Field of study: POWER ENGINEERING		(FACULTY SYMBOL) RIE		
7. Profile of studies: general				
8. Programme: MODERNIZATION OF POWER INSTALLATIONS				
9. Semester: 5				
10. Faculty teaching the course: Institute of Power Engineering and Turbomachinery				
11. Course instructor: Jarosław Dziuba PhD				
12. Course classification: professional				
13. Course status: compulsory				
14. Language of instruction: English				
15. Pre-requisite qualifications: English knowledge on B1 level				
16. Course objectives: Providing knowledge of modern power engineering implementation in chosen power engineering processes				
17. Description of learning outcomes:				
Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	Student knows traditional and modern power engineering technologies	Test	Lecture	K_W11 K_W17 K_W18 K_W19
2.	Student knows aspects of modern power engineering implementation	Test	Lecture	K_W15
3.	Student describes machines used in modern power engineering	Test	Lecture	K_W17 K_W18
4.	Student analyses and compares power plants systems	Test	Class	K_U22 K_U23 K_U24
5.	Student selects pumps for supercritical parameters	Test	Class	K_U22 K_U23 K_U24
6.				
7.				
8.				
18. Teaching modes and hours				
Lecture 30 Class 15				
19. Syllabus description:				
Lecture : Determinants of modern power engineering. Modern power plants with pulverized-fuel boilers. Modern gas turbines. Pumps for supercritical parameters and for nuclear power plants. Selection of pumps. Hydraulic energy recuperation for chosen technologies.				
Class : Comparing classical power plants to modern systems (supercritical parameters). Selection of pumps for supercritical parameters.				

20. Examination: yes

21. Primary sources:

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

22. Secondary sources:

Conference materials

23. Total workload required to achieve learning outcomes

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	30/30
2	Classes	15/30
3	Laboratory	/
4	Project	/
5	BA/ MA Seminar	/
6	Other	15/
	Total number of hours	60/60

24. Total hours: 120

25. Number of ECTS credits: 4

26. Number of ECTS credits allocated for contact hours: 2

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects):2

26. Comments:

Approved:

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(date, Instructor's signature)

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(date, the Director of the Faculty Unit signature)