

(faculty stamp)

**COURSE DESCRIPTION**

Z1-PU7

WYDANIE N1

Strona 1 z 1

<b>1. Course title: TECHNOLOGIES OF POWER ENGINEERING MACHINES</b>		<b>2. Course code</b>		
<b>3. Validity of course description: 2016/2017</b>				
<b>4. Level of studies: 1<sup>st</sup> cycle of higher education</b>				
<b>5. Mode of studies: intramural studies</b>				
<b>6. Field of study: POWER ENGINEERING</b>		<b>(FACULTY SYMBOL)</b>		
<b>7. Profile of studies: general academic</b>				
<b>8. Programme: Sustainable Energy Engineering</b>				
<b>9. Semester: 4</b>				
<b>10. Faculty teaching the course: IMiUE - ZMPiTE</b>				
<b>11. Course instructor: dr inż. Jarosław Dziuba</b>				
<b>12. Course classification: major subjects</b>				
<b>13. Course status: compulsory</b>				
<b>14. Language of instruction: English</b>				
<b>15. Pre-requisite qualifications: Basic Courses + subjects: Thermodynamics + Fluid Mechanics + Heat Flow</b>				
<b>16. Course objectives: Processes of energy conversion, technologies used in power plants</b>				
<b>17. Description of learning outcomes:</b>				
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_W17 K_W18
2.	The student makes analysis of power plant cycles	Project comparing different steam power plant cycles	Classes	K_U22 K_U23 K_U25
3.				
4.				
5.				
6.				
7.				
8.				
<b>18. Teaching modes and hours</b>				
<b>Lecture 30 / Class 15 /</b>				
<b>19. Syllabus description:</b>				
<u>Lecture:</u>				
<ul style="list-style-type: none"> <li>- Fuels and energy resources</li> <li>- Fuels characteristics</li> <li>- Energetic systems</li> <li>- Processes of energy conversion</li> <li>- Steam power plants and its machines</li> <li>- Gas turbines</li> <li>- Gas-steam systems</li> </ul>				

- 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 ciepłych, 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	30/30
2	Classes	15/30
3	Laboratory	/
4	Project	/
5	BA/ MA Seminar	/
6	Other	0/5
	Total number of hours	45/65

**24. Total hours: 110**

**25. Number of ECTS credits: 3**

**26. Number of ECTS credits allocated for contact hours: 0**

**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)