

## DESCRIPTION OF THE COURSES

- Course code: ELR 2516
- Course title: ENERGY MANAGEMENT
- Language of the lecturer: polish

<i>Course form</i>	<i>Lecture</i>	<i>Classes</i>	<i>Laboratory</i>	<i>Project</i>	<i>Seminar</i>
<i>Number of hours/week*</i>	<i>1</i>				<i>1</i>
<i>Number of hours/semester*</i>	<i>15</i>				<i>15</i>
<i>Form of the course completion</i>	Examination				Attestation
<i>ECTS credits</i>	<i>1</i>				<i>1</i>
<i>Total Student's Workload</i>	<i>30</i>				<i>30</i>

- Level of the course (basic/advanced): advanced
- Prerequisites:  
Electric Energy Generation. Energetic systems. Distracted production energy
- Name, first name and degree of the lecturer/supervisor: Henryk Wojciechowski, dr inż.
- Names, first names and degrees of the team's members: : Mieczysław Kozak, dr inż.
- Year:..... Semester:.....
- Type of the course (obligatory/optional): optional
- Aims of the course (effects of the course):  
Effective managing the supports of energy, technical efficiency and the fuel - efficient the production, transportation and use of energy. Optimization in power engineering from regard controlling supply side management (SSM) and demand side management (DSM)
- Form of the teaching (traditional/e-learning): traditional
- Course description:  
Fundamentals of energy policy and management, efficiency and energy intensity, relation energy – GNP, energy sources non-renewable and renewable, technology description and specifications, substitutions and energy conservation policy. Energy and environment, global and regional perspectives. Integrated resource planning (IRP) – supply side management (SSM) and demand side management (DSM). Energy markets: competition vs. Regulation. Role of governments in energy strategy shaping. „Green energy” options in market environment
- Lecture:

<i>Particular lectures contents</i>	<i>Number of hours</i>
1. Energy policy basic problem, main social and economy problems.	<i>1</i>
2. Energy pricing. Efficiency and intensity of energy use.	<i>1</i>
3. Chain of energy transformation, energy characteristic. Technology description and specification.	<i>2</i>
4. Basic problems of energy conservation policy. Substitution and rational use of energy carriers.	<i>2</i>
5. Renewable sources.	<i>1</i>

6. Environmental impacts of energy sector. Pollutants and mitigation of its emission.	<i>1</i>
7. Energy sector in transition, main directions of changes.	<i>1</i>
8. Energy markets: fundamental principles and structures. Competition vs. regulation.	<i>1</i>
9. Demand side management (DSM) and supply side management (SSM).	<i>2</i>
10. Integrated resource planning (IRP).	<i>1</i>
11. Energy law and international regulations. The energy sector perspectives.	<i>2</i>

- Classes – the contents:

- Seminars – the contents:

Current problems of technology, economy and ecology of energy systems

- Laboratory – the contents:

- Project – the contents:

- Basic literature:

1. N. Nakicenovic, A. Gruber, A. McDonald: Global Energy Perspectives. IIASA – WEC, Cambridge Univ. Press, Cambridge 1998

2. World Energy Council: Energy for Tomorrow's World – Acting Nov. WEC, London 2000

3. M. Ilić, F. Galiana, L. Fink (ed.) – Power System Restructuring, Engineering and Economics, Kluwer Ac. Publ., Boston/Dordrecht/London 1998

- Additional literature:

Current technical periodicals and proceeding of scientific conferences.

- Conditions of the course acceptance/creditation:

Lectures - Examination; Seminar - attestation.