

Code		Subject	Chemistry of Coal				
Responsible person	Grzegorz Jodłowski						
Class of subject		Kind of subject					
Faculty	Energy and Fuels						
Teaching hours	Total	Lectures	Classes	Laboratories	Seminars	Projects	ECTS
	15	15					2
Web page							
Remarks							
Aim of the subject – skills acquired							
<p>The aim of the subject is to acquire a fundamental knowledge on the structure, properties and chemistry of coal and carbonaceous materials. Students obtains the knowledge on coal structure models and the genesis of natural coal and carbonaceous materials sources. They analyse the behaviour of carbonaceous materials in different technological processes and observe its properties investigated by chosen methods.</p>							
Abstract of the subject							
<p>Different types of coal playing crucial role in the modern technology. It is the fuel for energy sector in other hand it is the raw material for chemical and other branch of the industry. Both, light and deep treatment of coal demand the knowledge on the coal material structure, admixtures and its properties in different processes. Models of coal structure and its genesis are regarded, physical and chemical properties in different POVs are outlined as well as the influences of structure and properties on the behaviour in chosen technological processes.</p>							
Conditions for course enrolment	n.a.						
Form of credit	credit of the course						
Rules of credit	grade for the student presentation of chosen subject						
Lecture content							
<p>Introduction to coal technology, nomenclature and classification. Theory on coal and organic derivatives genesis and metamorphism. Modern models of coal structure. Lignite and hard coal structure and microstructure. Carbonaceous fuels classification and sources. Texture and chemistry of coal surface. Carbo-chemistry of coal (coal treatment). Introduction to coal liquefaction and gasification. Review of coal derivatives as semiproducts.</p>							
Bibliography							
<ol style="list-style-type: none"> 1. Khan „Basic Concepts of Biotechnology”, Ukaz Publications 2006 2. C. Ratledge „Basic Biotechnology”, Cambridge University Press 2006 3. D. M. Mousdale „Biofuels Biotechnology Chemistry and Sustainable Development”, CRC Press Inc. 2008 4. G. Najafpour „Biochemical Engineering & Biotechnology”, Elsevier Science Publishers 2006 5. http://www.iea.org/publications/free_all.asp 6. http://www.iea.org/publications/free_all_papers.asp 							