

<b>Course title</b> Surowce w przemyśle chemicznym / Raw materials for chemical industries		<b>ECTS code</b> 13.3.0900	
<b>Name of unit administrating study</b> Faculty of Chemistry			
<b>Studies</b>			
<b>Field of study</b>	<b>Type</b>	<b>Form</b>	
Chemical Business	Bachelor / Engineer	Full-time studies	
<b>Teaching staff</b> Prof. dr hab. Adam Lesner			
<b>Forms of classes, the realization and number of hours</b>		<b>ECTS credits</b> 1	
<b>A. Forms of classes, in accordance with the UG Rector's regulations</b> lecture		classes - 15 h tutorial classes – 5 h student's own work – 10 h	
<b>B. The realization of activities</b> in-class learning		Total: 25 h - 1 ECTS	
<b>C. Number of hours</b> 15 h lecture			
<b>The academic cycle</b> Third year, summer semester			
<b>Type of course</b> obligatory		<b>Language of instruction</b> Polish	
<b>Teaching methods</b> Lecture with multimedia support		<b>Form and method of assessment and basic criteria for evaluation or examination requirements</b>	
		<b>A. Final evaluation, in accordance with the UG study regulations</b> course completion (with a grade)	
		<b>B. Assessment methods</b> Exam with open questions Oral presentation	
		<b>C. The basic criteria for evaluation or exam requirements</b> <ul style="list-style-type: none"> <li>• Positive mark on final written exam. Examination reflect all lecture's topics. The grade scale is in accordance with UG study regulations.</li> <li>• oral exam – additional evaluation for students with 40-50% points obtained during written exam</li> </ul>	
<b>Required courses and introductory requirements</b> Basis of general chemistry Selected informations from Inorganic and organic courses			
<b>Aims of education</b> <b>All topics from course content</b>			
<b>Course contents</b> Classification of raw materials Classification and characterization of main nonrenewable fossils raw materials Classification and characterization of main renewable raw materials Raw materials for energetic and petrochemical industries Raw materials for artificial fertilizers industry Raw materials for plastics industry Raw materials for paints and enamels production Pharmaceutical industry raw materials Surowce dla przemysłu środków ochrony roślin Raw materials for construction industry Ceramic industry resources Wood and wood related resources			

Biomass recycling  
Marine resources

**Bibliography of literature**

**A. Literature required to pass the course**

Monographic works provided by assistants leading classes

**B. Extracurricular readings**

**Knowledge**

1. Able to characterised the resources for chemical industry
2. Describes the purification of selected materials
3. Able to design the recycling paths for particular proces/resoureces.

**Skills**

1. Usage of minimal chemical terminology to present the lecture content in oral and written form.
2. Ability to assess the usefulness and functioning of existing engineering and technical solutions as well as research methods in the chemical industry

**Social competence**

1. Understands the need for continuous learning
2. Shows responsibility for the timely execution of scheduled tasks