

<b>General Information</b>			
<b>Course name</b>	ÚCHV/ADP/03 Porous Materials and their Applications	<b>ECTS Credits</b>	5
		<b>Semester</b>	summer
<b>Aims</b>			
To make the acquaintance of various types of advanced porous solids and basic methods for their investigation. To gen up the students with the methods used in characterisation of specific surface area and pore size of different types of porous materials.			
<b>Content</b>			
Terminology and principal terms associated with powders, porous solids and adsorption. Methodology of adsorption at the gas-solid interface, liquid-solid interface. Assessment of surface area and porosity. Inorganic materials (active carbon, metal oxides, zeolites, clay minerals, new advanced materials) and phenomenon of adsorption. Application in the industry and everyday life.			
<b>Assessment Methods and Criteria</b>			
Written test in the middle and the end of the semester.			
<b>Grading Scale (in %):</b> 100-91%-A, 90-81%-B, 80-71%-C, 70-61%-D, 60-51%-E, 50-0%-FX			

**Grading System:**

The University recognises the following six degrees for the evaluation of the study results:

- a) A – excellent (excellent results) (numerical value 1)
- b) B – very good (above average results) (1.5)
- c) C – good (average results) (2)
- d) D – satisfactory (acceptable results) (2.5)
- e) E – sufficient (results meet the minimum criteria) (3)
- f) FX – failed (requires further work) (4)

**Bibliography**

1. F. Rouquerol, J. Rouquerol, K. Sing: Adsorption by powders and porous solids, Academic press, London, UK, 1999
2. S. J. Gregg, K.S.W. Sing: Adsorption, surface area and porosity, Academic Press, London,, UK, 1982.
3. V. Zeleňák: Adsorption and porosity of solid substances, internal study text, PF UPJŠ, 2007.

