

General Information			
Course name	ÚCHV/STA1/03 Structure Analysis	ECTS Credits	6
		Semester	winter
Aims			
<p>Students get an overview about the symmetry at the micro- and macrostructure level and about diffraction methods used for the crystal structure determination and they will learn how to use the results of the crystal structure analysis in their own work.</p>			
Content			
<p>Macrostructure and microstructure symmetry, individual work with space groups. Theoretical basis of the diffraction experiment. Practical aspects of crystal structure solution. Processing the results of structural analysis. Theoretical basis, practical aspects and possibilities of X-ray powder diffraction analysis, its use at work of a chemist.</p>			
Assessment Methods and Criteria			
<p>2 written tests. 30 % The final examination is in a written form. The final mark is based on the results from current and final tests.</p>			
<p>Grading Scale (in %): 100-91%-A, 90-81%-B, 80-71%-C, 70-61%-D, 60-51%-E, 50-0%-FX</p>			

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

Massa, W.: Crystal structure determination, 2nd edition. Springer 2004.

Clegg, W. et al.: Crystal structure analysis. Principles and practice. Oxford University Press 2009.

Hahn, T.: International tables for crystallography, Vol. A. Kluwer Academic Publishers 2002.

Stout, G.H. & Jensen, L.H.: X-ray Structure Determination. Macmillan Publishing Co., Inc. 1968.

Klug, H.P. & Alexander, L.E.: X-Ray diffraction procedures for polycrystalline and amorphous materials. John Wiley & Sons, Inc. 1970.

