

General Information			
Course name	ÚCHV/BAC1/00 Bioinorganic Chemistry	ECTS Credits	5
		Semester	winter
Aims			
<p>The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment.</p>			
Content			
<p>Metallic and non-metallic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life.</p>			
Assessment Methods and Criteria			
<p>Test or seminar works examination</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

1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006.
2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998.
3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997.

