УНИВЕРЗИТЕТ У БАЊОЈ ЛУЦИ
UNIVERSITY OF BANJA LUKA
ПРИРОДНО-МАТЕМАТИЧКИ ФАКУЛТЕТ
FACULTY OF NATURAL SCIENCES AND MATHEMATICS

CHEMISTRY DEPARTMENT	FIRST CYCLE OF STUDY	Chemistry/Chemistry Education

Course name	Colloidal Chemistry			
Course code	**Course status**	**Semester**	**Hours of instruction**	**ECTS**
1C16HOS1115	elective	VII	2+2	5
Teacher(s)	**Prof. Dijana Jelić PhD**			

Prerequisite course(s)	**Entry requrements**
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Course goals

The student will expand knowledge about the properties and behavior of colloids, characteristics of natural and synthetic macromolecules, disperse systems and surface active substances. The focus is on the practical application of colloids in everyday life.

Learning outcomes

The student knows how to recognize the colloidal system, to determine the structure of the colloidal disperse system, as well as to determine the critical micellar concentration. The student knows how to recognize Newtonian and non-Newtonian systems, and to determine the viscosity coefficient of the mentioned systems.

Course content

Classification of disperse and colloid-disperse systems. Micellar colloids (surfactants, structure and properties, solubilization, application of surfactants). Stability and coagulation of colloidal systems. Optical properties of colloidal systems (scattering of light, turbidimetry and nephelometry: principles and application for concentration determination, determination of critical micellar concentration and solubilization). Postulates of rheology – Newtonian and non-Newtonian systems (plastic, pseudo-plastic, dilatants fluids, thixotropic and high elastic systems). Determination of rheological fluids properties (viscometer for Newtonian and non-Newtonian systems). Gels, membranes, emulsions and suspensions.
Experimental part Preparation of hydrophobic / hydrophilic colloids. Determination of critical micellar concentration. Swelling gel. Determination of viscosity coefficient.

Teaching methods

Lectures, laboratory exercises, seminar work

Books and other learning materials

Pejić N, Aleksić M. Odabrana poglavlja koloidne hemije (II dopunjeno izdanje), Farmaceutski fakultet, Univerzitet u Beogradu, 2018
Lj. Đaković, Koloidna hemija, Beograd, Zavod za udžbenike i nastavna sredstva, 2006.
N. Pejić, M. Aleksić, Odabrana poglavlja koloidne hemije, Beograd, Farmaceutski fakultet, Univerzitet u Beogradu, 2013.

Course activities and grading method

Taking a colloquium in laboratory exercises and defending a seminar paper. Oral part of the exam.

Test	**20**		
Paper work	**20**	**Final exam**	**60**

Additional course notes

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Name of the teacher who prepared this form	Dijana Jelić

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