Level: bachelor

Course title: Colloid chemistry

Status: elective

ECTS: 5

Requirements: none

Learning objectives

The aim of the course is to provide students with basic understanding of colloidal systems, their classification, stability and types of colloids, its optical, kinetic and surface properties, rheological behaviour and coagulation.

Learning outcomes

Upon successful completion of this course, the student should be able to:

- 1. identify different types of colloidal systems,
- 2. describe the mechanism of formation colloids,
- 3. understand optical, electrostatic and surface characteristics and the properties of colloids,
- 4. explain the mechanism of coagulation,
- 5. understand the chemical background and effect of surfactants and detergents,
- 6. explain the phenomenon of surface tension.

Syllabus

Theoretical instruction

Definition of colloids, classification, formation of disperse systems. Optical, electrical, kinetic and surface phenomena in colloids. Viscosity and rheological properties of colloids. Coagulation of colloids. Gels and membranes. Emulsions. Dispersion of gaseous phase.

Practical instruction Selected laboratory experiments.

Weekly teaching load				Other:
Lectures:	Exercises:	Other forms of	Student research:	
2	1	teaching: 1		