

COURSE/MODULE SYLLABUS

Course/Module Title	Statistical Physics and Thermodynamics of Macromolecules		
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Lecturer/Lecturers	Yevgeni Mamasakhlisov, Doctor of Science in Biophysics Associate Professor, Dept. of Molecular Physics, Faculty of Physics, YSU phone: (+374 94) 884438 e-mail: y.mamasakhlisov@gmail.com , y.mamasakhlisov@ysu.am		
Course/Module Type	For PhD students		
Course/Module Aims	Students will get knowledge about the physical properties of the synthetic and biological macromolecules, including DNA, RNA and proteins, the models describing macromolecules of the different architecture and origin and theoretical methods using in the field. Lectures give information about different topics of the thermodynamics and statistical physics of macromolecules, including phase separation effects, elasticity, self – organization etc.		
ECTS	5 ECTC 38/87 (contact hours/independent work hours) <i>Contact hours:</i> Lectures – 15 x 2.5hrs = 37.5 hrs; In total: 38 hrs <i>Independent hours:</i> Preparation for lectures: 40 hrs Preparation for midterm exams: 20 hrs Preparation for final exam: 27 hrs In total: 87 hrs 38 hrs + 87 hrs = 125 hrs (1 ECTS = 25 hrs) 125 : 25 = 5 ECTS		
The Pre-Requisites	None		
Learning outcomes	Students get knowledge about the physical principles of the macromolecule structure and physical properties.		
Evaluation Criteria	Attendance and interactive activity on lectures	10%	
	Coloquium	20%	
	Final Exam	70%	
	Final Evaluation	100%	
Course/Module Outline	For course/module content details see program (be attached)		
Teaching and Learning Methods	<i>Lectures (56)</i> Teaching and learning methods according to classification version A verbal and oral method working on the book written method		

	<p>demonstrational method (video presentations)</p> <p>Teaching and learning methods according to classification version B</p> <p>collaborative work</p> <p>discussion/debates</p> <p>practice-oriented study</p>
Compulsory learning sources	See lecture notes (be attached)