

(Table 5.2) Course unit description

Study program : Physics			
Type and level of studies: PhD studies			
Course unit: POLYMER PHYSICS			
Teacher in charge: Dragica Knežević			
Language of instruction: <i>English</i>			
ECTS: 15			
Prerequisites: enrolled semester			
Semester: <i>Winter Semester</i>			
Course unit objective			
To learn basic theoretical models and methods of polymer physics			
Learning outcomes of Course unit			
The gain of needed knowledge for studying models and phenomena in polymer physics			
Course unit contents			
Conformation of polymers chains, Simple random walk model, A real chain in a good solvent, The Flory method, Polymer melts, Macroscopic studies of correlation in melts, Polymer solution in good solvents, The mean field picture (Flory-Higgins), Scaling laws for athermal solvents, Correlations functions, Confined polymer solutions, Polymer gels, Dynamics of single chains, Semi-dilute solutions.			
Literature			
1. P.G. de Gennes, Scaling concepts in polymer physics, Cornell University Press 1979			
2. M.DoI and S.F. Edwards, The theory of polymer physics, Calderon Oxford Press,1994			
3. T.Kawakatsu, Statistical Physics of Polymers, Springer, 2004			
Number of active teaching hours			Other classes
Lectures:	Practice: 1	<i>Mentoring system:</i> 3	
Teaching methods			
Mentoring system			
Examination methods (maximum 100 points)			
Exam prerequisites	No. of points:	Final exam	No. of points:
Student's activity during lectures	10	oral examination	<i>30</i>
practical classes/tests	40	written examination	
Seminars/homework	20	
Project			
Other			
Grading system			
Grade	No. of points	Description	
10	91-100	Excellent	
9	81-90	Exceptionally good	
8	71-80	Very good	
7	61-70	Good	
6	51-60	Passing	
5	0-50	Failing	