

Course title:	Polymer Physics
Institute/Division:	FACULTY OF CHEMICAL ENGINEERING AND TECHNOLOGY / Department of Chemistry and Technology of Polymers
Number of contact hours:	15 hours (15 h lectures)
Course duration:	1 semester (7 th semester of regular I cycle studies - fall)
ETCS credits:	2
Course description:	The course deals in a more abstract level with the Physical Properties of Polymers. The following concepts will be covered: Models of the polymer chain, Kuhn length. Size of polymer chain, radius of gyration. Polymers in solutions. Polymer blends. Solubility and miscibility: Flory-Huggins theory. Crystallinity in Polymers. Mechanical properties of polymers. Glass transition. Time temperature superposition. Thin Films.
Education effects :	<ul style="list-style-type: none"> - knowledge : Understanding of the physical phenomena relevant to polymer science and technology - skills: Students can explain the physical properties of polymers - social: Enhancing communication skills
Literature:	<ol style="list-style-type: none"> 1 . Rubinstein M, Colby RH, Polymer Physics, Oxford University Press, 2014 2. Gedde U, Polymer Physics, Springer, 2001
Assessment method:	Final Exam
Prerequisites:	Introductory course on materials science, elementary level calculus
Primary target group:	Advanced undergraduate students in the field of Chemical and Materials engineering
Lecturer:	dr K.N. Raftopoulos
Contact person:	dr K.N. Raftopoulos e-mail: raftopoulos@chemia.pk.edu.pl
Remarks:	The course is selectable