

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Polymeric materials technology</b>		Code <b>1010702221010722089</b>
Field of study <b>Chemical Technology</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 2</b>
Elective path/specialty <b>Polymer Technology</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: <b>2</b> Classes: <b>-</b> Laboratory: <b>3</b> Project/seminars: <b>2</b>		No. of credits <b>8</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>8 100%</b> <b>8 100%</b>
<b>Responsible for subject / lecturer:</b>  Jerzy Jęczalik, dr inż. email: jerzy.jeczalik@put.poznan.pl tel. 61 665 3669 Technologii Chemicznej Ul. Piotrowo 3, 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Knowledge of the basic principles of general, organic and physical chemistry.
2	<b>Skills</b>	Student knows and applies good practices of laboratory work, is able to operate the scientific equipment. He or she is able to search for information in scientific literature, databases and other properly chosen sources.
3	<b>Social competencies</b>	He or she is conscious of the effects of engineering activity.
<b>Assumptions and objectives of the course:</b> Gaining of knowledge in the area of production of polymers and polymeric materials therefrom.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Student has the knowledge of production of basic industrial polymers. - [K_W02] 2. Student knows the principal processes of industrial polymer synthesis. - [K_W03] 3. Student knows, how to modify the properties of polymers in the polyreaction step. - [K_W11]		
<b>Skills:</b>		
1. Student has the ability of information finding in scientific literature, preparing and presenting papers on polymer technology subjects. - [K_U01] 2. Student has the ability of analyzing and interpreting of the results of experiments. - [K_U06] 3. Student has the ability of adopting of the knowledge of polymer technology to solve the real problems in industry - [K_U11]		
<b>Social competencies:</b>		
1. Student is conscious of limitation of his knowledge and understands the need of further continuous education in area of polymer technology. - [K_K01] 2. Student is conscious of limitations of science and technology in the area of plastics technology, including K_K04, K-K02ng environment protection. - [K_K02] 3. Students can work in a team and are aware of their responsibility for their work and responsibility for the results of the teamwork. - [K_K04]		

<b>Assessment methods of study outcomes</b>		
-Written exam in the subject presented at lectures, evaluation of laboratory exercises and reports, evaluation of content of design project or presentation from the area of polymeric materials.		
<b>Course description</b>		
<p>Outline of chemistry and technology of polymeric materials.            Areas of application of polymeric materials.            Carbochemical and petrochemical raw materials for polymers production.            Industrial methods of polymer synthesis.            Preparation fo polymers for processing.            Polymers obtained via polymerization, polycondensation or polyaddition methods? polyolefins, polystyrene, PVC, PVA, poliviny alcohol, polyacetals, acrylic polymers, fluorine-containing polymers, polyoxymethylene, phenoloc resins, amine resins, polyamides, polyesters, polyurethanes, epoxide resins, polysiloxanes- production methods, properties, processing, applications.            Naturally coouring polymers and their technical applications.            Modification of polymers.</p> <p>Najnowsze osiągnięcia w dziedzinie technologii materiałów polimerowych i ich zastosowań technicznych. Zastosowania materiałów polimerowych w różnych dziedzinach techniki (np. polimery w budowie pojazdów, statków powietrznych, technice kosmicznej, zapisie informacji, medycynie, technice medycznej, itp.)</p>		
<b>Basic bibliography:</b>		
1. W. Szlezzyngier, Tworzywa sztuczne, FOSZE Rzeszów 1998. 2. J. Pielichowski, A. Puszyński, Technologia tworzyw sztucznych, WNT Warszawa 1994.		
<b>Additional bibliography:</b>		
1. Z. Wirpsza, Technologia ogólna polimerów, Politechnika Radomska 1997. 2. Praca zbiorowa (red. Z. Florjańczyk, S. Penczek), Chemia polimerów, t. II, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2002.		
<b>Result of average student's workload</b>		
Activity	Time (working hours)	
1. Lectures	30	
2. Laboratory exercises	45	
3. Design works	30	
4. Preparation fopr the exam, exam	35	
5. Preparation for laboratory exercises	20	
6. Reports from lab. exertcises	20	
7. Design project preparation	20	
<b>Student's workload</b>		
Source of workload	hours	ECTS
Total workload	200	8
Contact hours	105	5
Practical activities	45	3