

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Dynamics of Processes		Code 1010702221010720642
Field of study Chemical Technology	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty Organic Technology	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: 2		No. of credits 2
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 100 2% 100 2%
Responsible for subject / lecturer: dr inż. Katarzyna Staszak email: Katarzyna.Staszak@put.poznan.pl tel. 616653771 Chemical Technology ul. Piotrowo 3 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	W1 Student has got the necessary knowledge of mathematics sufficient to allow the use of mathematical methods to describe the issues and chemical processes and calculations needed for engineering activities W3 Student has got the necessary knowledge of chemistry in the understanding of phenomena and chemical processes
2	Skills	U7 Student uses computer programs supporting the execution of typical tasks of chemical and process engineering U8 Student can use of mathematical knowledge to simulate
3	Social competencies	K1 Student understands the need for further education and improve their professional, personal and social skills K3 Student is able to interact and work in a team, inspire, and integrate engineering environmental
Assumptions and objectives of the course: Obtain knowledge in the construction of mathematical models of chemical processes and their solutions		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. It has a broader and deeper knowledge of mathematics and computer science needed for modeling, planning, optimization and characterization of industrial chemical processes and planning experiments and analyzing the results of experimental studieStudent has the necessary knowledge of chemistry in the understanding of phenomena and chemical processes - [K_W01, T2A_W01]		
Skills: 1. Student uses advanced computer programs, supporting the implementation of tasks typical of chemical and process engineering, chemical experiments and plans to test their progress and properly interpret the results - [K_U08, T2A_U07] 2. Student has enhanced the ability to analyze and solve problems related to chemical technology and engineering process, using the theoretical, experimental and simulation methods - [K_U09, T2A_U08, T2A_U09]		
Social competencies: 1. Student has awareness of the need for lifelong learning and professional development - [K_K01, T2A_K01] 2. Student follow all the rules of teamwork and has a sense of responsibility for joint ventures and achievements in work - [K_K04, T2A_K04]		

Assessment methods of study outcomes		
Evaluation of projects completed		
Course description		
In pursuit of the activities are built models that describe phenomena, chemical processes using mathematical equations. The models are based on relevant laws of physics of the process, together with (unfortunately necessary) simplifying assumptions. Analyze both models with concentrated parameters (zero-dimensional) and distributed.		
Basic bibliography:		
1. 1. Luyben W.L., Modelowanie symulacja i sterowanie procesów przemysłu chemicznego, Cz. I. i II., WNT, 1976 (tłumacz. McGraw-Hill, Inc., 1973)		
Additional bibliography:		
1. 1. A. L. Myers, W.D. Seider, ?Obliczenia komputerowe w inżynierii chemicznej?, WNT War-szawa 1979. Bieżące artykuły z zakresu technologii chemicznej.		
2. Ostrowski G.M., Wolin J.M., Optymalizacja złożonych systemów technologii chemicznej, WNT, 1974		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in activities	30	
2. Implementation of the project	15	
3. Participation in consultations related to the implementation of the project	5	
Student's workload		
Source of workload	hours	ECTS
Total workload	50	2
Contact hours	35	1
Practical activities	15	1