

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Organic Chemical Technology		Code 1010702221010720017
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: 2 Classes: - Laboratory: 3 Project/seminars: -		No. of credits 6
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 %) 6 100% 6 100%
Responsible for subject / lecturer: prof. dr hab. inż. Juliusz Pernak email: juliusz.pernak@put.poznan.pl tel. (61) 6653682 Wydział Technologii Chemicznej ul. Piotrowo 3, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Student has the necessary knowledge of chemistry in the understanding of phenomena and chemical processes. Student has a basic knowledge of chemical technology.
2	Skills	Student can obtain information from literature, databases and other sources, can interpret the information, draw conclusions and formulate opinions. Based on general knowledge explains the basic phenomena associated with important processes in the chemical and process engineering.
3	Social competencies	Student can interact and work in a group. Student can prioritize appropriately used to perform a particular task.
Assumptions and objectives of the course: The broadening of knowledge in the field of chemical technology.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Student has a broader and deeper knowledge of organic chemical technology, allowing him to formulate and solve complex tasks associated with chemical technology. - [K_W02]		
2. Student has knowledge of complex chemical processes involving careful selection of materials, raw materials, methods, techniques, apparatus and equipment for chemical processes and the characterization of the obtaining products. - [K_W06]		
Skills:		
1. Student has the ability to teamwork - [K_U02]		
2. Student can actually verify the concepts of engineering solutions for the state of the art in technology and chemical engineering. - [K_U10]		
Social competencies:		
1. Student has formed awareness of the limitations of science and technology related to chemical technology, including environmental. - [K_K02]		
Assessment methods of study outcomes		
Current control during laboratory classes, the final written exam.		

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<p>Technological principles with examples of (potential difference of principle, the principle of the best use of raw materials, the best use of the energy principle, the principle of the best use of the apparatus, the principle of moderation technology). The principle of non-infringement on selected examples. Biomass - the raw material for chemical synthesis and production of fuels (examples of technological schemes, the effectiveness of the use of biomass, new trends involving biomass in the chemical industry). Odours and their neutralization (types, examples of selected plants, oxidation as an effective method). Clean coal processing, production of organic compounds, biological removal of sulfur.</p>		
<p>Basic bibliography:</p> <ol style="list-style-type: none"> 1. S. Bretsznajder, W. Kawecki, J. Leyko, R. Marcinkowski: Podstawy ogólne technologii chemicznej, WNT, Warszawa, 1973. 2. E. Grzywa, J. Molenda: Technologia podstawowych syntez organicznych, WNT, Warszawa 1987. 3. R. Bogoczek, E. Kociołek-Balawejder: Technologia chemiczna organiczna. Surowce i półprodukty, Wydawnictwo Akademii Ekonomicznej we Wrocławiu, Wrocław 1992. 4. M. Taniewski: Technologia chemiczna - surowce, WPS, Gliwice 1997. 5. E. Bortel, H. Konieczny: Zarys technologii chemicznej, PWN, Warszawa 1992. 6. B. Burczyk: Biomasa. Surowiec do syntez chemicznych i produkcji paliw, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2011. 7. B. Burczyk: Zielona chemia. Zarys, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2006. 		
<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. K. Weissermel, H.J. Arpe: Industrial organic chemistry, VCH, Weinheim, New York, Basel, Cambridge, Tokio, 1993. 2. G.T. Austin: Shreves chemical process industries, McGraw Hill Professional, 1984. 		
Result of average student's workload		
Activity	Time (working hours)	
1. Lectures	30	
2. Laboratory	45	
3. Preparation for laboratory classes	30	
4. Participation in the consultation	30	
5. Exam (preparation and the presence of the examination)	15	
Student's workload		
Source of workload	hours	ECTS
Total workload	150	6
Contact hours	105	4
Practical activities	45	2