

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Organic Chemical Technology		Code 1010705221010720017
Field of study Chemical Technology	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty General Chemical Technology	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 20 Classes: - Laboratory: 30 Project/seminars: -		No. of credits 5
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 %) 5 100% 5 100%
Responsible for subject / lecturer: dr inż. Katarzyna Materna email: katarzyna.materna@put.poznan.pl tel. (61)6653681, -3552 Faculty of Chemical Technology ul. Piotrowo 3 60-965 Poznan		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Student has knowledge of general chemistry, organic and inorganic, knows basic methods, techniques and tools used in chemical analysis.
2	Skills	Student can obtain information from literature, databases and other sources, can interpret the information obtained, to draw conclusions and formulate opinions. Student is able to apply their knowledge in practice, both during the implementation work and the further education in the second level.
3	Social competencies	Student is able to interact and work in a group. Student is able to set priorities for implementing a specific task.
Assumptions and objectives of the course: Getting knowledge about materials, processes, and products manufactured in the organic chemical industry.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Student has knowledge of the complex chemical processes including the proper selection of materials and methods for the implementation of chemical processes and characterization of the obtained products. - [K_W03] 2. Student has established and expanded knowledge of chemical technology. - [K_W11]		
Skills: 1. Student has the ability to work in a team. - [K_U02] 2. The student can independently determine the direction of further education and pursue self-directed learning. - [K_U05] 3. Student is able to carry out chemical reactions on a laboratory scale in different conditions. - [K_U09]		
Social competencies: 1. Student is aware of the need for education and lifelong training. - [K_K01] 2. Student is aware of their responsibility for their own work and the willingness to submit to work in a team and to take responsibility for collaborative tasks. - [K_K04]		
Assessment methods of study outcomes		

1. Current control during laboratory classes. 2. The written exam.		
Course description		
The course discusses: - Tasks of modern chemical technology, natural resources and main directions of its processing (coal, petroleum, natural gas, renewable raw materials); - Large organic synthesis: preparation, properties and use of synthesis gas, methanol, acetylene, acetaldehyde, styrene, ethanol, phenol, urea. - surfactants : types of operation and use of surfactants, methods of preparation, characterization of important groups, such as alkylbenzene, alkoxylated fatty alcohols, alkoxylated alkyl phenols, alkyl ether sulfates, alkyl sulfates, the problem of surfactants in the raw materials of cosmetic, household formulations (powders and liquids for washing, disinfecting agents - washing, dishwashing agents, materials for cleaning hands); - Dyes: classification of dyes, the characteristics of the most important groups: azo dyes, triphenylmethane, anthraquinone, indigoid, sulfur, reactive, food; - Chemistry of drugs: development of a chemical process, the production of chemicals: acetylation of salicylic acid, the production of sulfonamides, antibiotics - penicillin production.		
Basic bibliography:		
1. R. Bogoczek, E. Kociołek-Balawejder: Technologia chemiczna organiczna. Surowce i półprodukty, Wydawnictwo Akademii Ekonomicznej we Wrocławiu, Wrocław 1992. 2. M. Taniewski: Technologia chemiczna - surowce, WPS, Gliwice 1997. 3. E. Grzywa, J. Molenda, Technologia podstawowych syntez organicznych, WNT, Warszawa 1995. 4. Zieliński, Surfaktanty towaroznawcze i ekologiczne aspekty ich stosowania, Wydawnictwo AE, Poznań 2000. 5. B. Burczyk: Biomasa. Surowiec do syntez chemicznych i produkcji paliw, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2011.		
Additional bibliography:		
1. J. McMurry, Chemia organiczna, PWN, Warszawa 2005. 2. B. Burczyk, Zielona chemia zarys, Wrocław 2006. 3. J. Molenda, Technologia chemiczna, WSiP, Warszawa 1993.		
Result of average student's workload		
Activity	Time (working hours)	
1. Preparation for the exam and exam.	25	
2. Participation in lectures.	20	
3. Participation in laboratory.	30	
4. Preparation for laboratory classes.	30	
5. Participation in consultation.	20	
Student's workload		
Source of workload	hours	ECTS
Total workload	125	5
Contact hours	70	3
Practical activities	55	2