

FACULTY OF CHEMISTRY					
SUBJECT CARD					
Name of subject in Polish:	Agrochemikalia i środki ochrony roślin				
Name of subject in English:	Agrochemicals and plant health products				
Main field of study (if applicable):	Chemical technology				
Specialization (if applicable):	Technology of Fine Chemicals				
Profile:	academic				
Level and form of studies:	2nd level, full-time				
Kind of subject:	obligatory				
Subject code	TCC024013				
Group of courses	NO				
	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	15				
Number of hours of total student workload (CNPS)	30				
Form of crediting	crediting with grade				
For group of courses mark (X) final course					
Number of ECTS points	1				
including number of ECTS points for practical (P) classes					
including number of ECTS points for direct teacher-student contact (BK) classes	0.5				
PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES					
1. General knowledge on chemical technology					
SUBJECT OBJECTIVES					
C1 To provide student with a general knowledge of major agrochemicals classes					
C2 To provide student with recent developments and knowledge of agrochemical synthesis, formulations and applications					
C3 To provide student with waste agrochemicals management and disposal					
C4 To provide student with a general knowledge of law and regulations dealing with agrochemicals					
SUBJECT LEARNING OUTCOMES					
related to knowledge:					
PEK_W01– trainee will have a general knowledge of the most important aspects of the agrochemistry and technology of agrochemical formulations					
PEK_W02 – student will have specialized knowledge about the of plant health products in the protection of food and crops from weeds, insects and diseases					
PEK_W03 – student will have a basic knowledge of legislation/regulations associated with plant protection products					
related to social competences:					
PEK_K01student understands the need to inform the public about the need of the production and application of agrochemicals in agreement with sustainable development goals.					
PEK_K02 student is aware of the social role of the engineer					
PROGRAMME CONTENT					

Lectures		Number of hours
Lec 1	Pesticides classes, synthesis, applications.	6
Lec 2	Plant nutrients	2
Lec 3	Mineral and organic fertilizers	2
Lec 4	Biostimulants of plant growth	2
Lec 5	Formulation of agrochemicals: conventional and new-generation formulations, surfactants.	1
Lec 6	Waste management and disposal of agrochemicals.	1
Lec 7	Legislation and regulations. Regulatory requirements.	1
	Total hours	15
TEACHING TOOLS USED		
N1. Multimedia presentations		
EVALUATION OF SUBJECT LEARNING OUTCOMES ACHIEVEMENT		
Evaluation (F – forming (during semester), P – concluding (at semester end))	Learning outcomes number	Way of evaluating learning outcomes achievement
P	PEK_W01 – PEK_W03 PEK_K01 – PEK_K02	Writing Test
PRIMARY AND SECONDARY LITERATURE		
<u>PRIMARY LITERATURE:</u>		
[1] Chemistry and Technology of Agrochemical Formulations D.A. Knowles, Springer 1998		
[2] Pesticide Chemistry. Crop Protection, Public Health, Environmental Safety, Ed. by Hideo Ohkawa, Hisashi Miyagawa, and Philip W. Lee, WILEY-VCH 2007, ISBN: 978-3-527-31663-2		
SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)		
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