

**STUDIA II LEVEL, MAGISTERSKIE (4 sem)****DIRECTION: CHEMICAL TECHNOLOGY**Specialty: **Technology of fine chemicals** (Prof. K. A. Wilk)

Sem.	complementary engineering	I	II	III
Godz.	26h /30 ECTS /2E	24h / 30 ECTS / 3E	25h / 30 ECTS / 3E	23h / 30 ECTS / 1E
26	Electives I 2w(2 ECTS)		Principles of business 2w (3 ECTS)	
25				
24	Chemical informatics 2l (2 ECTS)	Philosophy of science and technology 1w (2 ECTS)	Polymer additives 2w (2 ECTS) <b>E</b>	Green chemistry 2w (2 ECTS)
23		Mathematical methods in design and analysis of experiment 1w (1 ECTS)		
22	Environment protection 2w (2 ECTS)	Environmental protection in chemical technology 1w + 2l (2 + 2)ECTS	Data mining in chemical technology 2l (3 ECTS)	Production control and quality management <b>E</b> 1w + 1p (2 + 1) ECTS
21				
20	Introduction to materials science and engineering 2w (2 ECTS)	Process modeling in chemical technology 1w + 2l (1 + 2)ECTS	Pharmaceuticals and biopharmaceuticals 2w + 2l (3 + 2) ECTS <b>E</b>	Process project 1w (1 ECTS)
19				
18	Technical safety 1w (3 ECTS)	Chemical reaction engineering 1w + 1p (2 + 2)ECTS	Agrochemicals and plant health products 1w + 2l (1 + 2)ECTS	Design and feasibility study of technological process 2p (3 ECTS)
17	Technical drawing 2l (2 ECTS)			
16		Fundamentals of biotechnology <b>E</b> 2w (2 ECTS)	Analytical methods in fine chemicals 2w + 2l (2 + 2)ECTS	Sustainable development 1w (1 ECTS)
15	Recycling of materials 2w (2 ECTS)			
14		Disperse systems – physicochemistry and technology <b>E</b> 2w + 2l (3 + 3) ECTS	Specialty polymers – physicochemistry and technology <b>E</b> 2w + 2l (3 + 3) ECTS	Graduate laboratory II 14l (10 ECTS)
13	Biotechnology with introduction to industrial microbiology 2w + 1p (2 + 1 ECTS)			
12		Surface phenomena and applied catalysis <b>E</b> 2w + 2l (3 + 2) ECTS	Graduate laboratory I 4l (4 ECTS)	Graduate seminar- and thesis preparation 1s (10 ECTS)
11	Fundamentals of chemical technology 2w + 2p (2+2 ECTS) <b>E</b>			
10		Foreign language II 3c (2 ECTS)		
9				
8		Foreign language I 1c (1 ECTS)		
7				
6	Measurements in chemical equipment 1w + 2l (2 + 2 ECTS)			
5				
4				
3	Introduction to chemical engineering <b>E</b>			
2				
1	2w + 1c (2 + 2 ETCS)			
Sem.	complementary engineering	I	II	III

Allowable deficit of ECTS credits after each semester **15** credits

**Electives I:** **CHC020054w** Fundamentals of physical chemistry 2w 2ECTS,  
**BTC020013w** Molecular biology 2w 2ECTS  
**TCC020024w** Basic unit processes in chemical technology 2w 2ECTS