



## Subject card

Subject name and code	Design of synthesis of organic compounds having commercial significance, PG_00038908						
Field of study	Chemistry						
Date of commencement of studies	February 2022	Academic year of realisation of subject			2022/2023		
Education level	second-cycle studies	Subject group			Optional subject group		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Organic Chemistry -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Sebastian Demkowicz				
	Teachers						
Lesson type and method of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	30.0	0.0	45
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	45		5.0		25.0	75
Subject objectives	Acquiring the ability of retrosynthetic analysis and planning the synthesis of organic compounds Acquiring the ability of a patent preparation Acquiring the ability of group work and presentation of the results						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_W03	The student acquires knowledge on issues related to synthesis of organic compounds in an industrial scale. The student acquires skills in solving encountered technical problems .			[SW2] Assessment of knowledge contained in presentation		
	K7_U03	The student acquires individual and group work skills, learns to complete the task at a given time and manage the team's work			[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task		
	K7_K03	The student acquires the ability to plan and organize work in a group. Acquires the ability to cooperate in the implementation of the task.			[SK1] Assessment of group work skills		

Subject contents	<p>1. The basis of patent law</p> <p>2. Types of patents</p> <p>3. Design and synthesis of compounds used in the perfumery industry</p> <p>4. Design and synthesis of drugs including:</p> <p>Hydroxybisphosphonates</p> <p>Sofosbuvir</p> <p>Montelukast</p> <p>Xalerto</p> <p>Ticagrelor</p> <p>Sorafenib</p> <p>Raltegravir</p>											
Prerequisites and co-requisites	<p>1. Completion of the course of Organic Chemistry</p> <p>2. Completion of the course of Methods for the synthesis of organic compounds</p>											
Assessment methods and criteria	<table border="1" data-bbox="448 1030 1487 1128"> <thead> <tr> <th data-bbox="448 1030 798 1070">Subject passing criteria</th> <th data-bbox="801 1030 1142 1070">Passing threshold</th> <th data-bbox="1145 1030 1487 1070">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 1070 798 1128">presentation evaluation (1-10 points)</td> <td data-bbox="801 1070 1142 1128">60.0%</td> <td data-bbox="1145 1070 1487 1128">100.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	presentation evaluation (1-10 points)	60.0%	100.0%			
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Recommended reading	<table border="1" data-bbox="448 1133 1487 1547"> <tbody> <tr> <td data-bbox="448 1133 798 1478">Basic literature</td> <td colspan="2" data-bbox="801 1133 1487 1478"> <p>Michael B. Smith, March's Advanced Organic Chemistry: Reactions, Mechanisms, and Structure, Wiley</p> <p>R.T. Morrison and R. N. Boyd, Organic Chemistry</p> <p>John McMurry, <i>Organic Chemistry</i></p> <p>John D. Robert and Marjorie C. Caserio, Organic Chemistry</p> </td> </tr> <tr> <td data-bbox="448 1482 798 1509">Supplementary literature</td> <td colspan="2" data-bbox="801 1482 1487 1509">1. Patent law - the act of 30 June 2000. Industrial property Law</td> </tr> <tr> <td data-bbox="448 1514 798 1547">eResources addresses</td> <td colspan="2" data-bbox="801 1514 1487 1547"></td> </tr> </tbody> </table>			Basic literature	<p>Michael B. Smith, March's Advanced Organic Chemistry: Reactions, Mechanisms, and Structure, Wiley</p> <p>R.T. Morrison and R. N. Boyd, Organic Chemistry</p> <p>John McMurry, <i>Organic Chemistry</i></p> <p>John D. Robert and Marjorie C. Caserio, Organic Chemistry</p>		Supplementary literature	1. Patent law - the act of 30 June 2000. Industrial property Law		eResources addresses		
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Example issues/ example questions/ tasks being completed	<p>1. Design of the synthesis of 7- (4-chlorobutoxy) -1- (4-chlorobutyl) -1H-quinolin-2-one</p> <p>2. Design of the synthesis of 7- (4-chlorobutoxy) -1H-quinolone-2-one</p>											
Work placement	Not applicable											