

Course code																																	
Type and description	Elective Course																																
ECTS credit	1																																
Course name	Trends in Biodeterioration																																
Course name in Polish	Trendy w biodeterioracji																																
Language of instruction	English																																
Course level	8 PRK																																
Course coordinator	Prof. dr hab. Beata Gutarowska (0000-0002-9523-2001)																																
Course instructors	Prof. dr hab. Beata Gutarowska (0000-0002-9523-2001)																																
Delivery methods and course duration	<table border="1"> <thead> <tr> <th></th> <th>Lecture</th> <th>Tutorials</th> <th>Laboratory</th> <th>Project</th> <th>Seminar</th> <th>Other</th> <th>Total of teaching hours during semester</th> </tr> </thead> <tbody> <tr> <td>Contact hours</td> <td>0</td> <td>0</td> <td>0</td> <td>15</td> <td>0</td> <td>0</td> <td>15</td> </tr> <tr> <td>E-learning</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td></td> </tr> <tr> <td>Assessment criteria (weightage)</td> <td>0</td> <td>0</td> <td>0</td> <td>1,00</td> <td>0</td> <td>0,00</td> <td></td> </tr> </tbody> </table>		Lecture	Tutorials	Laboratory	Project	Seminar	Other	Total of teaching hours during semester	Contact hours	0	0	0	15	0	0	15	E-learning	No	No	No	No	No	No		Assessment criteria (weightage)	0	0	0	1,00	0	0,00	
	Lecture	Tutorials	Laboratory	Project	Seminar	Other	Total of teaching hours during semester																										
Contact hours	0	0	0	15	0	0	15																										
E-learning	No	No	No	No	No	No																											
Assessment criteria (weightage)	0	0	0	1,00	0	0,00																											
Course objective	<p>After completing the subject a student is able to:</p> <ol style="list-style-type: none"> 1. Characterize modern methods of detection and identification of microorganisms and their metabolites participating in biodeterioration of technical materials – outcomes W4, U4 2. Describe the research trends in the biodegradation and biocorrosion processes of technical materials – outcomes W4, U4 3. Describe the newest directions and results of scientific research and their impact on practical applications in the protection of technical materials against biodeterioration – outcomes U4, K1 4. Discuss on the methods of conducting scientific research, obtained results and create conclusions – outcomes K1 5. Expand his knowledge and skills independently and critically – outcomes K1 																																
Learning outcomes	Effects 1-3 – written exam Effects 4-5 - presentation																																
Assessment methods	The result of the written exam – 60% Presentation - 40%																																
Prerequisites	-																																
Course content with delivery methods	<ol style="list-style-type: none"> 1. Modern methods of detection and identification of microorganisms and their metabolites participating in biodeterioration of technical materials, including metagenomic and metabolomic methods - possibilities and limitations 2. Mechanisms of biodegradation and biocorrosion of selected technical materials based on the results of modern research 3. Traditional and modern methods of technical materials' protection against biodeterioration - strategies of bioactive materials, modern methods of disinfection and protective coatings 4. Examples of modern methods for testing biodeterioration of technical materials and developing strategy for their protection against biodeterioration 																																
Basic reference materials	<ol style="list-style-type: none"> 1. Microbiology of materials, Zyska, Żakowska, wyd. PŁ, Łódź, 2005, in Polish 2. International Biodeterioration and Biodegradation Journal, Elsevier 																																
Other reference materials	-																																
Average student workload outside classroom	10 hours																																
Comments	-																																
Last update	25.01.2022																																