

(faculty stamp)

COURSE DESCRIPTION

1. Course title: INTRODUCTION TO MATERIALS		2. Course code:		
3. Validity of course description: 2019/2020				
4. Mode of studies: intramural studies				
5. Level of studies: BSc studies				
6. Field of study: Industrial and Engineering Chemistry				
7. Profile of studies: academic				
8. Programme: -				
9. Semester: IV				
10. Faculty teaching the course: RCh-3, Department of Chemical Engineering & Process Design				
11. Course instructor: Magdalena Stec, PhD				
12. Course classification:				
13. Course status: compulsory				
14. Language of instruction: English				
15. Pre-requisite qualifications: Chemistry – basic knowledge, Physics – basic knowledge				
16. Course objectives: main goals are the knowledge of available construction materials used for the production of industrial equipment, together with the restrictions of Office of Technical Inspection (UDT)				
17. Description of learning outcomes:				
No	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	Student has the knowledge of the available construction materials and their proper selection during the apparatus/system designing stage	lectures	credit test	K_W03+
2.	Student has the knowledge in the field of Office of Technical Inspection (UDT) restrictions and regulations	lectures	credit test	K_W17+ K_U15+
3.	Student has the knowledge of the methods used in anti-corrosion protection	lectures	credit test	K_W12+ K_U16+
4.	Student can find and use available literature/databases required for the proper selection of the construction material	lectures	credit test	K_U01+

5.	Student understands the necessity of further professional training and the development of professional and own competence	lectures	credit test	K_K01+
18. Teaching modes and hours				
	Lecture	Classes	Laboratory	Project
	30			
19. Syllabus description:				
1. Types of construction materials				
2. Office of Technical Inspection (UDT) restrictions and regulations				
3. Metals and their alloys				
4. Steel – types, methods of treatment and their impact on structural properties				
5. Ceramics, composites, carbon materials				
6. Glass and plastics				
7. The use of materials and plastics during the production of apparatus and other industrial devices				
8. Anti-corrosion protection				
20. Exam: no				
21. Primary sources:				
1. Doran D., Cather B., „Construction materials reference book” Routledge, New York, 2013				
2. Dobrzański L. „Podstawy nauki o materiałach i metaloznawstwo” WNT ,Warszawa, 2002				
3. Dobrzański L. „Materiały inżynierskie i projektowanie materiałowe” WNT, Warszawa, 2006				
4. Pikoń J. „Podstawy konstrukcji aparatury chemicznej. Część 1 – Tworzywa konstrukcyjne”, Wyd. Pol. Śl., Gliwice, 1973				
22. Secondary sources				
1. UDT (Office of Technical Inspection) regulations				
23. Total workload required to achieve learning outcomes				
No	Teaching mode	Contact hours/Student workload hours		
1.	Lectures	30/60		
2.	Class	/		
3.	Laboratory	/		
4.	Project	/		
5.	BA/MA seminar	/		
6.	Other	/		
	Total number of hours	30/60		
24. Total hours:			90	
25. Number of ECTS credits:			2	
26. Number of ECTS credits allocated for contact hours:			2	
27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects):			0	
28. Comments:				

Approved:

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(date and Instructor's signature)

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(date, the Director of the Faculty Unit signature)

¹ 1 ECTS point – 25-30 student workload hours