1. GENERAL INFORMATION				
1.1. Course teacher	Assistant professor Gordana Bilić, PhD		1.6. Year of the study	II.
1.2. Name of the course	Corrosion and corrosion protection in petroleum engineering		1.7. ECTS credits	4
1.3. Associate teachers	Teaching Assistant Katarina Perić, MSc		1.8. Type of instruction (number of hours L + E + S + e-learning)	24L+15E+15S+6e-learning
1.4. Study programme (undergraduate, graduate, integrated)	graduate		1.9. Expected enrolment in the course	10
1.5. Status of the course	☐ mandatory	☒ elective	1.10. Level of application of e-learning (level 1, 2, 3), percentage of online instruction (max. 20%)	level 3, 10% online

2. COUSE DESCRIPTION			
2.1. Course objectives	Present the problems of corrosion in the oil industry and its impact on safety and the environment; Explain the theoretical basis of corrosion and its consequences; Present the factors that affect the corrosion rate and corrosion rate determination methods; Give an overview of modern methods of corrosion protection.		
2.2. Enrolment requirements and/or entry competences required for the course	-		
2.3. Learning outcomes at the level of the programme to which the course contributes	Design wellbores for hydrocarbon and geothermal water exploitation; Design system for oil and gas processing, storage and transportation; Compare specific procedures and processes in petroleum engineering and geoenergy engineering; Assess the environmental impact of petroleum engineering and geoenergy engineering.		
2.4. Expected learning outcomes at the level of the course (3 to 10 learning outcomes)	Distinguish the types of corrosion and the conditions of occurrence of each type; Assess the consequences of corrosion and its impact on safety and the environment; Carry out a test to determine the rate of corrosion; Propose an appropriate method of corrosion protection; Evaluate the effectiveness of the selected method of corrosion protection in order to protect the environment.		
2.5. Course content (syllabus)	Theoretical bases of corrosion, what are the causes, what are the consequences - environmental impact and safety; Corrosion problems in petroleum engineering - causes, consequences, types of corrosion, methods of protection; Thermodynamics and kinetics of corrosion processes; Factors influencing the corrosion rate and corrosion rate determination methods; Corrosion protection - what are the methods of protection, their impact on the environment, practical examples.		
2.6. Format of instruction:	☒ lectures	☐ independent assignments	2.7. Comments:

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	☒ seminars and workshops ☒ exercises ☐ online in entirety ☒ partial e-learning ☐ field work		☐ multimedia and the internet ☒ laboratory ☐ work with mentor ☐ (other)	-
2.8. Student responsibilities	Class attendance (theory, laboratory) seminar paper, written and oral exam.			

2.9. Monitoring student work									
	Class attendance	YES		Research		NO	Oral exam	YES	
	Experimental work	YES		Report		NO			
	Essay		NO	Seminar paper	YES				
	Preliminary exam		NO	Practical work		NO			
	Project		NO	Written exam	YES		ECTS credits (total)	4	

2.10. Required literature (available in the library and/or via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Cicek, V. (2017.): *Corrosion Engineering and Cathodic Protection Handbook*, Scrivener Publishing LLC. – selected chapters	NO	YES
	Sastri, V. S. (2015.): *Challenges in Corrosion: Cost, Causes, Consequences and Control*, John Wiley & Sons, Inc. – selected chapters	NO	YES
	Byars, H. G. (1999.): *Corrosion Control in Petroleum Production*, NACE – selected chapters	NO	YES
	Uhlig's Corrosion Handbook, Third Edition, 2011., Revie R. W., ed. – selected chapters	NO	YES
2.11. Optional literature	-		
2.12. Other (as the proposer wishes to add)	-		

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