1. GENERAL INFORMATION				
1.1. Course teacher	Tenured Professor Zdenko Krištafor, PhD		1.6. Year of the study	II.
1.2. Name of the course	Well control		1.7. ECTS credits	4
1.3. Associate teachers	Teaching Assistant Petar Mijić, PhD		1.8. Type of instruction (number of hours L + E + S + e-learning)	20L+30E+0S+10e-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 2, 16,67% online
2. COUSE DESCRIPTION				
2.1. Course objectives	The aim of the course is to enable students to appraise the condition in oil, gas and water reservoirs and the reasons that can lead to the kick of formation fluids into the wellbore during drilling. Gaining knowledge about well killing procedures depending on formation properties, position of the drilling tool in the well and other important indicators for applying the appropriate killing method. Acquisition of a routine for calculating kill sheets in accordance with the requirements of the International Well Control Forum with the corresponding calculations. Technical characteristics and operational capabilities of blowout prevention equipment and BOP hydraulic control unit.			
2.2. Enrolment requirements and/or entry competences required for the course	Passed exam Drilling from the 1st year of study.			
2.3. Learning outcomes at the level of the programme to which the course contributes	Independently solve complex engineering problems in petroleum engineering and geoenergy engineering; Compare specific procedures and processes in petroleum engineering and geoenergy engineering.			
2.4. Expected learning outcomes at the level of the course (3 to 10 learning outcomes)	Analyze the reasons for kicks and consequent conditions in the wellbore; Assess and prepare all calculations necessary for applying basic killing methods, according to the rules of relevant international institutions (IWCF, IADC); Recommend the necessary equipment used to prevent blowouts; Compare the basic principles of work on simulators; Assess all the problems encountered during drilling and choose the most favorable ways of remediation.			
2.5. Course content (syllabus)	Rock and reservoir properties; Wellbore conditions and early signs of kick; kick indicators; Slow circulation rate; killing procedures; Driller´s method of killing the well; Wait and weight method; Concurrent method; volumetric method, top-kill method; Other killing methods (low choke pressure method, bullheading; Kill sheet; principles of blowout simulators; Blowout hydraulic control unit ("Koomey"); Theoretical basis for calculating the required volume of hydraulic fluid; Blowout preventers; Final written test in accordance with the rules of the International well control forum;			

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2.6. Format of instruction:	☒ lectures ☐ seminars and workshops ☒ exercises ☐ online in entirety ☐ partial e-learning ☐ field work			☐ independent assignments ☐ multimedia and the internet ☐ laboratory ☐ work with mentor ☐ (other)			2.7. Comments: -			
2.8. Student responsibilities	The obligation of the student's attendance at least 80% of lectures and conducted field work.									
2.9. Monitoring student work	Class attendance	YES		Research		NO	Oral exam	YES		
	Experimental work		NO	Report		NO	(other)			
	Essay		NO	Seminar paper		NO	(other)			
	Preliminary exam	YES		Practical work		NO	(other)			
	Project		NO	Written exam		NO	ECTS credits (total)	4		

	Title	Number of copies in the library	Availability via other media
2.1. Required literature (available in the library and/or via other media)	Adams, N. (1980.): *Well Control Problems and Solutions*, Petroleum Publishing Company, Tulsa, 1980. – selected chapters	YES	NO
	Aberdeen Drilling School & Well Control Training Centre: *Well Control for the Man on the Rig*, 5 day course	NO	YES
	Maersk Training Centre (2004.): *Well Control Manual*, Svendborg. – selected chapters	NO	YES
2.11. Optional literature	Well Control School. (2002.): *Guide to Blowout Prevention*, Well Control School, Harvey, Louisiana. – selected chapters		
	Watson, D., Brittenham, T., Moore, P.L., (2003.): *Advance Well Control*, SPE Textbook, Richardson, Texas. – selected chapters		
2.12. Other (as the proposer wishes to add)	-		

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