



University of
Zagreb



University of Zagreb
FACULTY OF MINING,
GEOLOGY AND PETROLEUM
ENGINEERING



Projekt je sufinancirala Evropska unija iz Europskog socijalnog fonda.

1. GENERAL INFORMATION			
1.1. Course teacher	All teachers with appropriate scientific-teaching titles who participate in the implementation of the programme	1.6. Year of the study	II.
1.2. Name of the course	Master thesis	1.7. ECTS credits	12
1.3. Associate teachers		1.8. Type of instruction (number of hours L + E + S + e-learning)	360 hours; Student prepare master thesis under supervision of a mentor.
1.4. Study programme (undergraduate, graduate, integrated)	graduate	1.9. Expected enrolment in the course	30
1.5. Status of the course	<input checked="" type="checkbox"/> mandatory	<input type="checkbox"/> elective	1.10. Level of application of e-learning (level 1, 2, 3), percentage of online instruction (max. 20%)
2. COUSE DESCRIPTION			
2.1. Course objectives	Acquisition of knowledge and skills necessary for independent planning, execution and supervision of various tasks in the field of petroleum and geoenergy engineering. Master thesis can be prepared on the basis of any of the courses in the first year.		
2.2. Enrolment requirements and/or entry competences required for the course	Only for students who successfully passed all exams from the first 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; Design wellbores for hydrocarbon and geothermal water exploitation; Analyse reservoir rock and reservoir fluids properties; Plan hydrocarbon and geothermal reservoir management; Predict reservoir behaviour and the behaviour of hydrocarbon and geothermal water production system; Design a system for oil and gas processing, storage and transportation; Optimize hydrocarbon and geothermal water production; Compare specific procedures and processes in petroleum engineering and geoenergy engineering; Appraise the process and a facility's efficiency in petroleum engineering and geoenergy engineering; Assess the risk of accidental situations during various operations in petroleum engineering and geoenergy engineering; Assess the environmental impact of petroleum engineering and geoenergy engineering; Plan the methods and procedures for avoiding or minimizing environmental impact of petroleum engineering and geoenergy engineering activities;		

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	<p>Appraise projects in petroleum engineering and geoenergy engineering; Supervise projects in petroleum engineering and geoenergy engineering; Appraise energy company's business; Analyse energy markets.</p>								
2.4. Expected learning outcomes at the level of the course (3 to 10 learning outcomes)	<p>Highlight the basic objectives of the thesis with regard to the selected master thesis topic; Analyse the search results of available literature related to the selected topic master thesis topic; In collaboration with the mentor, design research in accordance with the selected topic master thesis topic; Compare different applied methods and procedures in research work; Organize individual chapters of the master thesis in accordance with the selected master thesis topic, planned research and the proposed concept of the work; Prepare a written master thesis; Evaluate the results obtained by research within the master thesis topic; Make a conclusion based on the obtained research results.</p>								
2.5. Course content (syllabus)	<p>-</p>								
2.6. Format of instruction:	<p><input type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> entirely online <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work</p>				<p><input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia and the internet <input type="checkbox"/> laboratory <input checked="" type="checkbox"/> work with mentor <input type="checkbox"/> (other)</p>		<p>2.7. Comments: -</p>		
2.8. Student responsibilities	<p>Designing and conducting research based on a given topic of the thesis in collaboration with a mentor, and the preparation and defence of the thesis.</p>								
2.9. Monitoring student work	Class attendance		NO	Research	YES		Oral exam		NO
	Experimental work		NO	Report		NO	Master thesis	YES	
	Essay		NO	Seminar paper		NO	Public defence of the master thesis	YES	
	Preliminary exam		NO	Practical work		NO			
	Project		NO	Written exam		NO	ECTS credits (total)	12	
2.10. Required literature (available in the library and/or via other media)	<p>Title</p>						Number of copies in the library	Availability via other media	
	<p>Instructions for preparation and defence of the master thesis (2010.); Faculty of Mining, Geology and Petroleum Engineering; University of Zagreb.</p>						NO	YES	