

SYLLABUS

Basic data of the subject			
Faculty:	Faculty of Engineering and Informatics		
Title of the subject:	Hydraulic and pneumatic systems		
Level:	Bachelor		
Course Status:	Elective		
Year of studies:	3		
Number of hours per week:	3		
Value of Credits - ECTS:	4		
Time / location:			
Course lecturer:	Mr.sc. Ismet Malsiu		
Contact details:	Ismet.malsiu@ushaf.net		
Course description			
	<i>This course will introduce students to hydraulic and pneumatic systems, their history and the basic principles of hydraulic systems design and their maintenance, examples of hydraulic systems use, air compression equipment, air preparation units, elements of pneumatic systems, et.</i>		
Objectives of the course:			
	<i>The objective of this course it to introduce students to physical traits of fluids, hydraulic systems, pneumatic systems and their application.</i>		
Expected learning outcomes:			
	<p><i>After successful completion of the course, students will be able to:</i></p> <ul style="list-style-type: none"> • <i>understand performance of hydraulic and pneumatic systems.</i> • <i>know and understand the work of electrohydraulic and electro-pneumatic systems.</i> • <i>understand the principles of hydraulic and pneumatic pumps and distribution systems</i> 		
Contribution to the student load (which must correspond with learning outcomes)			
Activity	Hours	Days/weeks	Total
Teaching (lectures and exercises)	3	15	45
Internship			
Contacts with teacher / consultations	1	3	3
Field exercises			
Midterm, seminars and projects.			
Homework			
Self-learning time student (at the library or at home)	3	14	42

Final preparation for the exam	2	5	10
Time spent on evaluation (tests, quiz and final exam)	2		2
Projects and presentations			
Total			102
Teaching methodology:			
	<i>Lectures, exercises, seminar, discussions, lab work, study visits</i>		
Assessment methods:			
	<i>Final exam comprises 100% of the final grade. The exam includes multiple choice questions, open questions, accessibility of engineering experience</i>		
Literature			
Basic literature:			
	1. Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike		
Additional literature:			
	2. Nikolic G:Pnumatsko upravljanje		
Designed learning plan:			
Week	Lectures to be held		
Week:	<i>Hydraulic and pneumatic systems, history, advantages and disadvantages, application, physical traits of fluids Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli I</i>		
Week one:	<i>Hydrostatics, transmission fluid Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli I Nikolic G:Pnumatsko upravljanje kapituli I</i>		
Week two:	<i>Fluid dynamics, Cinematics Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli I Nikolic G:Pnumatsko upravljanje kapituli I</i>		
Week three:	<i>Pumps, distribution machines, hydraulic motors Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli I</i>		
Week four:	<i>Elements of hydraulic systems Valves Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli II</i>		
Week five:	<i>Filters, reservoirs, accumulators and tubes Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli II</i>		
Week six:	<i>Basic principles of hydraulic systems design and their maintenance Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli II</i>		
Week seven:	<i>Examples of the use of hydraulic systems Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli II Nikolic G:Pnumatsko upravljanje kapituli III</i>		
Week eight:	<i>Pneumatics, physical features of gasses Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli II Nikolic G:Pnumatsko upravljanje kapituli III</i>		
Week nine:	<i>Air compression equipment, air preparation units</i>		

	<i>Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli II</i>
Week ten:	<i>Elements of pneumatic systems, high pressure pneumatic systems Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli III</i>
Week eleven:	<i>Basic principles of pneumatic systems design and their maintenance Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli III</i>
Week twelve:	<i>Examples of the use of pneumatic systems Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli III Nikolic G:Pnumatsko upravljanje kapituli IV</i>
Week thirteen:	<i>Hydropneumatics Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli III Nikolic G:Pnumatsko upravljanje kapituli IV</i>
Week fourteen:	<i>Selection of examples from the industry Pajazit A.Likaj R:Sistemet hidraulike dhe pneumatike kapituli III Nikolic G:Pnumatsko upravljanje kapituli IV</i>
Week fifteen:	<i>Summary</i>

Academic policies and rules of conduct

<i>Regular attendance, turning off mobile phones, coming to class on time, etc.</i>
