

Basic information about subject - CURRICULUM				
Academic Unit:	Faculty of Mechanical Engineering			
Department:	Engineering Design and Vehicles			
Title of subject:	SAFETY OF TRANSPORTATION VEHICLES			
Level of study:	Master			
Status of subject:	Elective			
Semester:	VII			
Number of hours per week:	2+2			
ECTS value:	6			
Teacher of the subject:	Prof.Dr.Ilir Doçi			
Description of subject:	Concepts of safety of transportation vehicles – motor vehicles, forklifts, auto cranes and other transportation devices in industry, including safety of their main parts. Regulations and standards about safety of transportation vehicles. Safety devices and systems. Safe work environment. Training of personnel. Active and passive safety in motor vehicles. Electronic safety systems. Systems for fire protection and electrical hazards.			
Targets of subject:	Training students on the field of safety of motor vehicles, forklifts, auto cranes and other industrial transportation devices.			
Expected results of student:	Student will understand regulations and standards about safety of motor vehicles and transportation devices in industry. Implementation at work and measures to be taken in case of failure. Must be able to identify sources of danger, knows safety of particular parts and ways to prevent dangers. Knows safety devices and electronic safety systems. Protection against electrical hazards. Forms of testing's, control and technical maintenance. Responsibilities of working personnel. Knows concepts of active and passive safety for vehicles.			
Contribution in the load of student (which should correspond with results of gain of the student)				
Activity	Hours	Days	Weeks	Total
Lectures	2		15	30
Exercises Theoretical /Laboratory	2		15	30
Practical work	2	3		6
Contacts with teacher/consultations	1		5	5
Practice in field	1	8		8
Testing's, seminars	3	2		6
Homework	2		6	12
Time of self study of student (in library or at home)	4	10		40
Final preparation for exam	5	1		5
Time spent in evaluation (tests, questionnaire, final exam)	2	2		4
Projects, presentations, etc.	2	1		2
Total				148
Methodology of teaching:	Regular teaching, lecturing with presentations in groups, exercises with tasks and examples, seminar tasks and works, tests, homework.			
Report between practical and theoretical part of study:	Theoretical part (%)		Practical part (%)	
	50%		50%	
Exam taking format:	Testing during the semester, seminars, and final exam.			
Basic literature:	<p>[1] Dr. sc. Ilir Doçi, <i>Siguria e Mjeteve Transportuese I-Automjete motorike (Safety of transportation devices I – Motor vehicles)</i>, Prishtina, University book, 2012.</p> <p>[2] Dr. sc. Ilir Doçi, <i>Siguria e Mjeteve Transportuese I (Safety of transportation devices I – Mechanical constructions)</i>, Prishtina, University book, 2012.</p>			

	<p>[3] Mitch Ricketts, <i>Motor Vehicle Safety</i>, Northeastern State University, 2017.</p> <p>[4] <i>OECD (2011), Moving Freight with Better Trucks: Improving Safety, Productivity and Sustainability</i>, OECD Publishing.</p> <p>[5] Hannover Hans-Otto-Mechtold Fritz-Koop Jurgen-Lenzkes Dieter, <i>Sicherheit bei Kranen</i>, Springer Verlag Berlin, 1999. f.19-77.</p> <p>[6] <i>Forklift Safety</i>, Agricultural Safety Program, Columbus, OH, USA, 2006.</p> <p>[7] <i>Best Practices on Conveyor Safety</i>, Work Safe, Alberta, Canada, 2003.</p>
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Detailed teaching plan :

Week	Description of Lectures
<i>1st week</i>	Introduction to the safety of industrial vehicles and motor vehicles. General safety concepts. Development of safety concepts. Informing about the subject seminar assignments.
<i>2nd week</i>	Classification of road transport vehicles
<i>3rd week</i>	Safety of road transportation vehicles - Elements of active safety, Safety of the steering system, braking system. Safety of tyres. Light signaling in the vehicle. Voice signals. Field of view.
<i>4th week</i>	Elements of passive safety. Body and cabin safety. Safety belts and airbags. Vehicle design and safety design concepts. Environmental protection systems.
<i>5th week</i>	Precautions during vehicle movement and vehicle maintenance. Human impact on security. Fire protection.
<i>6th week</i>	Electronic safety systems of motor vehicles - Driver assistance systems,
<i>7th week</i>	Electronic systems for avoiding accidents.
<i>8th week</i>	Safety testing of motor vehicles, Safety of the transportation of goods by means of road transport.
<i>9th week</i>	<i>First Intermediary evaluation</i>
<i>10th week</i>	Safety of industrial transport vehicles - Safety concepts of some types of cranes, applicable safety standards
<i>11th week</i>	Safety devices - motion switches, force and moment limiters, slope or position indicators, levelers. Defenders. Signalers.
<i>12th week</i>	Electrical protection measures in industrial vehicles. Securing from electrical cables, conduits or slip lines. Fuses and circuit breakers. High voltage protection, Lightning protection. Cautions of moving near power transmitters. Maintenance of industrial transport vehicles.
<i>13th week</i>	Safety when working with forklifts. Forklift maintenance. Safety rules at work. Safety standards.
<i>14th week</i>	Safety when working with continuous transport devices. Safety rules at work. Hazardous points of equipment. Safety standards.
<i>15th week</i>	<i>Second Intermediary evaluation</i>
Additional Literature:	<p>[1] <i>European Best Practice Guidelines on Cargo Securing for Road Transport</i>,</p> <p>[2] <i>DIN Taschenbuch 44, Krane und Hebezeuge 1</i>, Beuth, 1995.</p> <p>[3] <i>DIN Taschenbuch 185, Krane und Hebezeuge 2</i>, Beuth, 1995.</p> <p>[4] <i>Operator's Crane Safety Manual</i>, Iowa Mold Tooling Co., GARNER, IA. USA, 2005.</p> <p>[5] <i>Pravilnik o zaštiti na radu pri utovaru i istovaru tereta</i>, (nn br.49/86), Zagreb.</p> <p>[6] <i>Pravilnik o opštim merama i normativima zaštite pri radu sa dizalicama</i>, Zavod za dokumentaciju zastite na radu, Niš.</p> <p>[7] <i>Pravilnik o tehničkim normativima za dizalice</i> (sl. br. 65/91), Zagreb.</p> <p>[8] <i>A Guide to Cranes and Derricks</i>, N.C. Department of Labor, Occupational Safety and Health Division, Raleigh, NC, USA. 2010.</p>