

Course code:

TRSP

Course item:

D.3.9.

1. INFORMATION ABOUT THE COURSE

A. Basic information

Course title	Basics of repair technology
Field of study	Transport
Cycle	First cycle
Study profile	Academic
Study mode	Full – time
Specialisation	<ul style="list-style-type: none"> ➤ Organization of transport ➤ Road transport ➤ Traffic engineering ➤ Post – accident engineering in transport
Unit responsible for the field of study	Faculty of Mechanical Engineering
Lecturer	Dr inż. Michał LISS Dr inż. Tomasz KAŁACZYŃSKI
Introductory courses	Vehicle construction, Materials science, Manufacturing techniques and basics of machine technology, Basics of technical operation
Prerequisites	Knowledge of construction principles, manufacturing technology, types of materials and wear processes.

B. Semester/ weekly timetable

Semester	Lectures	Classes	Laboratories	Project classes	Seminars	Fieldwork	ECTS credits
winter /summer	30E		15				4

C. Assumed outcomes and aims - aims bind the course programme with the study programme and are referred to in learning outcomes point 2

2. LEARNING OUTCOMES (acc. to National Qualifications Framework)

No.	Description of learning outcomes	Reference to learning outcomes for the field of study	Reference to learning outcomes for the area of study
KNOWLEDGE			
K1	knows the basic causes of transport use	K_W20	T1A_W03,06
K2	knows the basic methods of renewal of used parts of transport equipment	K_W20	T1A_W06
K3	can assess the desirability of repairing an unfit means of transport	K_W20	T1A_W06

K4	knows the rules of designing the technological process of repair	K_W20 K_W58	T1A_W06
SKILLS			
S1	knows how to recognize the need to repair a means of transport based on accepted criteria	K_U13	T1A_U14,16
S2	can assess the scope and form of repair	K_U13	T1A_U14,16
S3	knows how to choose the right methods of renewal	K_U13	T1A_U14,16
S4	knows how to design a technological process for the renewal of a means of transport	K_U03	T1A_U03
SOCIAL COMPETENCES			
SC1	is aware of the importance of professional behaviour and compliance with professional ethics	K_K02	T1A_K01
SC2	can make a synthetic analysis of methods and results	K_K05	T1A_K06
SC3	understands the need to improve their own professional workshop	K_K01	T1A_K01
SC4	can use the acquired knowledge and skills in professional work	K_K04	T1A_K06

3. TEACHING METHODS

multimedia lecture, laboratory classes
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4. METHODS OF EXAMINATION

written exam, written report

5. COURSE CONTENT

Specify the content separately for each type of classes in accordance with point I.B.	<p>Lecture</p> <p>Formulation of basic issues of transport means repairs. Technological processes for repairing the technical object. Methods for organizing repairs. Acceptance and qualification of machines and vehicles for repair. Principles of general washing of transport means and detailed assemblies and elements - car washes, washing agents. Principles of rational disassembly of facilities and assemblies. Assembly and element verification. Physical aging processes of machine and vehicle elements: tribological, fatigue, corrosive, erosive, mechanical and corrosive. Rules for qualifying items for regeneration - criteria for making a decision. Basic methods of regeneration of used parts of transport means. Assembly of assemblies, completing elements and assembly of assemblies. Break-in and team research. Installation of means of transport after repair. Examination, testing and assessment of the quality of the repair. Collection of objects after repair. Creating technological cards of the repair process.</p> <p>Laboratory</p> <p>Technology of disassembly and assembly work. Verification of means of transport. Non – destructive methods for assessing damage to components. Technology of repairing the plating of means of transport. Technology for repairing dents by the method of welded metal hooks. Dents repair technology by the inertia hammer method. Technology for repairing dents using a spotter. The technology of repairing elements made of plastic. Regeneration of machine elements by gluing and putty methods. Regeneration of machine elements using the repair dimensions method. Regeneration of machine elements by applying plastic coatings.</p>
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6. VALIDATION OF LEARNING OUTCOMES

(Each learning outcome from the list requires validation methods to ensure that it was achieved by a student.)

Learning outcome	Form of assessment (for example:)					
	Oral examination	Written examination	Colloquium	Project	Report
K1		x				
K2		x				
K3					x	
K4		x				
S1		x				
S2		x				
S3					x	
S4		x				
SC1		x				
SC2		x				
SC3		x				
SC4		x				

7. LITERATURE

Basic literature	<p>[1] Adamiec P., Dziubiński J., Filipczak J., 2002. Motor vehicle repair technology. Wydawnictwo Politechniki Śląskiej, Gliwice.</p> <p>[2] Feld M., 2007. Basics of designing technological processes of typical machine parts. WNT, Warszawa.</p> <p>[3] Jazdon A., Przybyliński B., 1999. Machine and vehicle repair technology. Guide to laboratory exercises. Część I. Skrypt ATR, Bydgoszcz.</p> <p>[4] Uzdowski M., Abramek K., Garczyński K., 2003. Motor vehicles. Technical exploitation and repair. WKiŁ, Warszawa.</p> <p>[5] Seidel T., 2014. Car body repair technology. Wydawnictwo Technotransfer, Wrocław.</p>
Supplementary literature	<p>[1] Plewniak J., Służalec A., 1992. Regeneration by welding methods. Wydawnictwo Politechniki Częstochowskiej, Częstochowa.</p> <p>[2] Bocheński C.I., Klimkiewicz M., Kojtych A., 2001. Selected issues of technical service of vehicles and machines. Wydawnictwo SGGW, Warszawa.</p>

8. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE EXPECTED LEARNING OUTCOMES EXPRESSED IN TIME AND ECTS CREDITS

Student's activity		Student workload– number of hours (for example:)
Classes conducted under a direct supervision of an academic teacher or other persons responsible for classes	Participation in classes indicated in point 1B	60
	Supervision hours	
Student's own work	Preparation for classes	15
	Reading assignments	20
	Other (preparation for exams, tests, carrying out a project etc)	25
Total student workload		120
Final number of ECTS credits		4

