

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Service Engineering of Means of Transport</b>		Code <b>1010604241010612072</b>
Field of study <b>Transport</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>2 / 4</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time,part-time) <b>part-time</b>	
No. of hours Lecture: <b>10</b> Classes: <b>-</b> Laboratory: <b>8</b> Project/seminars: <b>-</b>		No. of credits <b>1</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>1 100%</b> <b>1 100%</b>
<b>Responsible for subject / lecturer:</b> JOSKO, Marian, Assoc. Prof., PhD (Eng.), DSc email: marian.josko@put.poznan.pl tel. +4861 665 2247 Faculty of Machines and Transportation 3 Piotrowo street, 60-965 Poznan, Poland		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic knowledge from range of physics, mechanics, theory of machines as well as structure and maintenance of transport means
2	<b>Skills</b>	Competence in selection, integration and interpretation of obtained information and skills of making conclusion and opinion formulation
3	<b>Social competencies</b>	Consciousness of importance and reality of non-technical aspects and effects of transport means servicing
<b>Assumptions and objectives of the course:</b> An instruction of students with basic problems of servicing of technical means of transport as well as with existing technologies of servicing of specific subassemblies and equipments of these means		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Knows the notion and essence of servicing as a method of maintenance of transport means - [K1A_W15] 2. Has the knowledge of basic conceptions connected with servicing of transport means - [-] 3. Knows some systems, kinds and organisational aspects of transport means servicing - [-] 4. Knows the technology of cosmetic service in range of washing and conservation of transport means - [-] 5. Knows the operations connected with environment protection determined by servicing of transport means - [-] 6. Has the knowledge of main tendencies in technology and organisation of servicing of contemporary transport means - [-]		
<b>Skills:</b>		
1. Is able to point a basic causes of servicing of transport means and consequences its relinquish - [K1A_U14-15] 2. Has the ability to distinguish service and repair operations in means of transport - [-] 3. Is able to fit a kind of service action to mean of transport and its residual operational potential - [-] 4. Has the ability to realise servicing of some most important subassemblies of transport means - [-] 5. Is able to decide in the range of operations connected with servicing of selected transport mean in condition of transport company - [-]		
<b>Social competencies:</b>		

1. Has a consciousness of social necessity of servicing as a form of maintenance of movable assets - [K1A_K01-02]
2. Is able to point onto most important social factors influenced the quality of servicing - [-]
3. Is able to anticipate the needs and expectations of customers in the range of transport means servicing - [-]
4. Is able to develop independently his knowledge in the scope of technology of transport means servicing - [-]

<b>Assessment methods of study outcomes</b>
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Credit with the course by methods of written and oral check the basic knowledge connected with servicing of means of transport during their operational time, including rudimental technologies of service and with regard existing systems of maintenance, European directives and native instructions and modern organisational forms of servicing in relation to an individual and fleet of transport means.

<b>Course description</b>
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1. Introduction and organisation of the subject. Organisational and formal matters. Classification of transport means. The role of servicing in a life time of transport means. Basic notions connected with servicing and maintenance. Service versus repair of means of transport.
2. Genesis, systems and principles of servicing. Reason of servicing. Wear and degradation of machine parts and vehicles as well as operational materials and chemical products. Systems of servicing. Organisation methods of servicing against of background of national servicing system.
3. Servicing of group of transport means. Modern methods of servicing of an ensemble of transport means. Contract for service and servicing packages in authorised and independent service stations both an own and leased means of transport regarding directives EU ? an old and a new BER.
4. Kinds of servicing. Single, multiple, adaptive, daily, routine, season, claimed and guaranteed services. Periodic technical services of transport means and their technology.
5. Technology of cosmetics servicing. Some examples of cosmetics and preventive servicing. Function and methods of cosmetics service. Washing of transport means. Chemical preparations for washing. Washing machines and their kinds. Technology of cosmetic servicing of some various examples of transport means. Systems of recirculation in washing machines and washing stations.
6. Quality of servicing. Determination of the quality of servicing and some factories influenced on the quality with regard of applied technology, equipment of stands, organisation, competence and motivation of staff of servicing station.
7. Infrastructure and miscellanies connected with servicing. Technical background and equipment of transport means servicing. Safety of service. Some miscellanies connected with servicing. Service inspection of transport means. Main tendencies in servicing of transport means and companies.

**Basic bibliography:**

1. Kozłowski M. (Ed.): Structure and Maintenance of Vehicles, Part 2 ? Service, Diagnosis and Repair Assemblies and Subassemblies, Vogel Business Media, Wrocław, 2009 (in Polish).
2. Trzeciak K.: Equipment of Car Shops. Auto, Warsaw, 2005 (in Polish).
3. Uzdowski M., Abramek K., Garczynski K.: Motor Vehicles. Technical Problems of Maintenance and Repair. WKiL, Warsaw, 2006 (in Polish).
4. Lewicki J.: Selected Problems of Service and Repair Technology. Printing House of Szczecin?s Polytechnic, Szczecin, 1990 (in Polish).

**Additional bibliography:**

1. Orzelowski S.: Repair and Service of Motor Vehicles. WSzIP, Warsaw, 2009 (in Polish).
2. Maryanski A.: Service Stations of Motor Vehicles. WKiL, Warsaw, 1981 (in Polish).
3. Winter Service of Car. Auto Export Journal, 2005, No 12, pp. 27?30 (in Polish).

<b>Result of average student's workload</b>
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Activity	Time (working hours)
1. Lectures	30
2. Consolidation of lectures? knowledge	10
3. Consultations	2
4. Preparation for attestation	10

<b>Student's workload</b>
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Source of workload	hours	ECTS
Total workload	52	1
Contact hours	32	1
Practical activities	0	0