

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Vehicles Service		Code 1010611251010612453
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 5
Elective path/specialty Road Transport	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: - Laboratory: 1 Project/seminars: -		No. of credits 3
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 3 100% 3 100%
Responsible for subject / lecturer: Marian Jósko, Assoc. Prof., PhD (Eng.), DSc email: marian.josko@put.poznan.pl tel. 61 665 2247 Faculty of Machines and Transport ul. Piotrowo 3, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge in the range of structure and maintenance of motor vehicles and technical objects
2	Skills	Ability to selection, integration and interpretation of obtained information and skills in conclusion and opinion formulation
3	Social competencies	Consciousness of importance and reality of non-technical aspects and effects of service activity for motor vehicles
Assumptions and objectives of the course: An acquaintance with the problem of maintenance of vehicles, especially with servicing of motor vehicles and with basic elements of service technology of assemblies of internal combustion engine as well as with an automotive vehicle		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Has a basic notions connected with operation time and wear of vehicles and their elements - [K1A_W15]		
2. Has a service conception and the difference between servicing and repairing of automotive vehicle - [K1A_W15]		
3. Has a knowledge concerning some systems, kinds and organisational aspects of automotive vehicles service - [K1A_W15]		
4. Has a knowledge connected with servicing of assemblies of internal combustion engine - [K1A_W15]		
5. Has a knowledge connected with servicing of an automotive vehicle assemblies - [K1A_W15]		
6. Knows the main tendencies in servicing of contemporary automotive vehicles - [K1A_W15]		
Skills:		
1. Is able to undertake a decision connected with servicing dependently on servicing system involving the vehicle - [K1A_U14-15]		
2. Is able to distinguish service and repair operations in the case of motor vehicle - [K1A_U14-15]		
3. Has the ability to fit some tools, instruments and equipment to service subassemblies of the engine and the vehicle - [K1A_U14-15]		
4. Is able to carry out a servicing the most important assemblies of engine and automotive vehicle - [K1A_U14-15]		
5. Is able to make a decision in the range of service in the case of new generation of motor vehicle - [K1A_U14-15]		
Social competencies:		

1. Possesses an awareness of social necessity of vehicle servicing as a essential item on the service market - [K1A_K01-02]
2. Is able to point onto most important social factors influenced the quality of servicing - [K1A_K01-02]
3. Is able to anticipate the needs and expectations of customers connected with servicing of automotive vehicles - [K1A_K01-02]
4. Is able to develop independently his knowledge in the scope of servicing of motor vehicles - [K1A_K01-02]

Assessment methods of study outcomes
<p>Attestation of the laboratories, confirming the ability to application of principles and operations of service, obtained during lectures and needed for servicing of an engine assemblies and chassis of car as well as manual mastery of service for chosen elements of engine or a chassis of an automotive vehicle.</p> <p>Credit with the course by methods of written and oral checks the basic knowledge connected with servicing of automotive vehicles, with the knowledge of service systems, kinds, general principles of service and ranges service actions concerning main assemblies of engine and the vehicles, with consideration of contemporary construction and requirements.</p>

Course description
<ol style="list-style-type: none"> 1. Introduction and organization of the subject ? basic notions connected with servicing of automotive vehicles, short repetition course of knowledge concerning of wear and worn parts of machines and vehicles, kinds and organisation of servicing. 2. Systems and principles of servicing ? main systems of servicing of automotive vehicles resulted from the way of maintenance, organisation methods, schedules and graphic schedules of service and main principles of servicing. 3. Servicing of automotive engine (internal combustion engine) ? servicing of such assemblies of engine as supply system, ignition, exhaust, lubrication, cooling, timing and electrical / electronic system and its selected elements, ex. main motor-car accessories (equipment). 4. Servicing of chassis? assemblies and a body of vehicle ? servicing of such subassemblies of automotive vehicle as a power transmission system, steering and suspension systems; servicing of braking system in the range of mechanical, hydraulic and air brakes; servicing of the car body and its lighting system. 5. Servicing of air condition system of the vehicle ? an importance of conditioning system of motor vehicle for a comfort and safety, main parameters of an area of comfort, basic and expanded routine maintenance of air condition system, equipment and materials for servicing. 6. Servicing of fleet of vehicles ? some principles and examples of outsourcing in service of the fleets, servicing of the fleets of motor-cars, trucks, delivery and tank trucks and other type of motor-trucks; advantages of contract for vehicle service. 7. Infrastructure and equipment for servicing ? technical background and equipment of automotive vehicle servicing; safety of motor-vehicle service; some kinds of service stations and workshops useful for the objects of road transport. 8. Some miscellanies of vehicle servicing ? some miscellanies connected with servicing; service inspection and service nets connected with producers of spare parts; main tendencies and some causes in servicing of the contemporary vehicles.

<p>Basic bibliography:</p> <ol style="list-style-type: none"> 1. Kozłowski M. (red.): Budowa i eksploatacja pojazdów, t. II ? Obsługa, diagnostyka i naprawa zespołów i podzespołów. Wyd. Vogel Business Media, Wrocław, 2006. 2. Trzeciak K.: Wyposażenie warsztatów samochodowych. Wyd. Auto, Warszawa, 2005. 3. Uzdowski M., Abramek K., Garczyński K.: Pojazdy samochodowe. Eksploatacja techniczna i naprawa. WKiŁ, Warszawa, 2003. 4. Lewicki J.: Wybrane zagadnienia technologii obsługi i napraw. Wyd. Uczelniane Politechniki Szczecińskiej, Szczecin, 1990.
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<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. Orzełowski S.: Naprawa i obsługa pojazdów samochodowych. WSzIP, Warszawa, 2005. 2. Maryański A.: Stacje obsługi samochodów. WKiŁ, Warszawa, 1981. 3. Zimowa obsługa samochodu. Auto Expert, 2005, nr 12, s. 27?30.
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Result of average student's workload	
Activity	Time (working hours)
1. Lectures	30
2. Consultations	2
3. Preparation for examination	10
4. Activity in examination	2
5. Preparation for laboratory	15
6. Activity in laboratories	15
7. Consolidation of laboratory?s knowledge / reports	20
Student's workload	

Source of workload	hours	ECTS
Total workload	94	3
Contact hours	51	2
Practical activities	50	2