



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Technology of repair of food transport vehicles [S1Trans1>TNPdTŻ]

Course

Field of study

Transport

Year/Semester

4/7

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

30

Laboratory classes

15

Other

0

Tutorials

0

Projects/seminars

0

Number of credit points

4,00

Coordinators

dr inż. Aleksandra Rewolińska
aleksandra.rewolinska@put.poznan.pl

Lecturers

Prerequisites

Knowledge: Has basic knowledge in the field of construction, technology and operation of machines. Skills: Can characterize the basic methods of mechanical processing. Social competences: Can think and act creatively. General knowledge in the field of study and detailed knowledge related to the selected specialization.

Course objective

Acquainting with the organization and planning of maintenance and repair works as well as methods of restoring vehicle fitness

Course-related learning outcomes

Knowledge:

1. The student has knowledge of important development trends and the most important technical achievements and of other related scientific disciplines, in particular transport engineering.
2. The student has a basic knowledge of the life cycle of means of transport, both equipment and software, and in particular about the key processes occurring in the product life cycle
3. The student knows the basic techniques, methods and tools used in the process of solving tasks in the

field of transport, mainly of an engineering nature engineering

Skills:

1. Student is able, when formulating and solving tasks in the field of transport, to apply appropriately selected methods, including analytical, simulation or experimental methods
2. The student is able to design elements of means of transport using data on environmental protection
3. The student is able to organize, cooperate and work in a group, assuming various roles in it, and is able to properly define priorities for the implementation of a task set by himself or others

Social competences:

Is aware of the importance of maintaining the suitability of food transport means and the associated responsibility for decisions made

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

1. The student is aware of the importance of knowledge in solving engineering problems, knows examples and understands the causes of malfunctioning transport systems that have led to serious financial and social losses or to serious loss of health and even life

Programme content

General characteristics of the truck fleet.

Characteristics of vehicle maintenance and repair systems.

Stages of the technological process of vehicle repair.

Washing vehicles, assemblies and parts.

Verification - assessment of the technical condition of vehicles.

Rules for dismantling vehicle assemblies and parts.

Methods of repairing vehicle assemblies and parts.

Course topics

1. The lecture covers the following topics:

General characteristics of the truck fleet. This issue includes current knowledge about the truck fleet in the country, truck repair plants, and the labor market.

Characteristics of maintenance and repair systems and methods of repairing motor vehicles.

Stages of the technological process of vehicle repair. The issue includes discussion of individual stages of the process, such as: disassembly, verification, cleaning, repair, and assembly. Examples of technological repair processes.

Presentation of repair methods - replacement of parts, repair using mechanical processing, repair of parts using gluing, regeneration using spray metalization, repair of parts using welding methods, regeneration of parts using electroplating.

2. As part of the exercises, students develop detailed documentation of the selected technological repair or service process.

3. The following exercises are carried out in the laboratory:

Tinning technology in bodywork repair

Renovation of refrigerated bodies, part 1

Renovation of refrigerated bodies, part 2

Soldering – soft

Brazing – hard gas

Leak detection, penetration, threading using the HELICOIL method

Teaching methods

1. Lecture with multimedia presentation
2. Exercise method (subject exercises, practice exercises) - in the form of auditorium exercises
3. Laboratory (experiment) method (independent conducting of experiments by students)

Bibliography

Basic

1. Nosal S., Inżynieria odnowy maszyn : wybrane zagadnienia – Wydanie I. – Poznań, 2017
2. Jósko M., Kowalczyk J., Mańczak R., Nosal S., Ulbrich D., Inżynieria odnowy pojazdów samochodowych, Tom 1 Inżynieria obsługi Poznań, 2019
3. Jósko M., Kowalczyk J., Mańczak R., Nosal S., Ulbrich D., Inżynieria odnowy pojazdów samochodowych, Tom 2 Inżynieria naprawy Poznań, 2019
4. Cypko J., Cypko E. Podstawy technologii i organizacji napraw pojazdów mechanicznych. WKiŁ, Warszawa 1989
5. Kostrzewa S., Nowak B. Podstawy regeneracji części pojazdów mechanicznych. WKiŁ, Warszawa, 1986

Additional

1. Nosal S., Tribologia. Wprowadzenie do zagadnień tarcia, zużywania i smarowania, Wyd. Politechniki Poznańskiej, Poznań 2012.
2. Klimpel A., Napawanie i natryskiwanie cieplne. Technologie, WNT, Warszawa, 2000
3. Adamiec P., Dziubiński P., Regeneracja i wytwarzanie warstw wierzchnich elementów maszyn transportowych, Wyd. Pol. Śląskiej, Gliwice, 1999

Breakdown of average student's workload

	Hours	ECTS
Total workload	90	4,00
Classes requiring direct contact with the teacher	45	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	45	2,00