



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Vehicle maintenance technical facilities

Course

Field of study

Mechanical and Automotive Engineering

Area of study (specialization)

Mass transport vehicles

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/6

Profile of study

general academic

Course offered in

polish

Requirements

elective

Number of hours

Lecture

30

Laboratory classes

15

Other (e.g. online)

Tutorials

Projects/seminars

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

mgr inż. Bartosz Kopec

bartosz.kopec@put.poznan.pl

Responsible for the course/lecturer:

mgr inż. Przemysław Filipowicz

przemyslaw.filipowicz@put.poznan.pl

Prerequisites

The student has a basic knowledge of the technical infrastructure for vehicle maintenance and knows how to maintain them.

The student knows the regulations governing the maintenance process of rail and road vehicles, as well as facilities and equipment in the maintenance process and maintenance planning for rail and road vehicles.

Course objective

The aim of the course is to familiarize the student with the organization of technical facilities for the maintenance of rail and road vehicles and the methods of servicing these vehicles.

Course-related learning outcomes

Knowledge

Has basic knowledge of the basics of machine design and the theory of machines and mechanisms, including mechanical vibrations. -M1_W05



Is aware of the latest trends in machine construction, i.e. automation and mechatronization, automation of machine design and construction processes, increased safety and comfort of operation, the use of modern construction materials. -M1_W18

Has elementary knowledge of the life cycle of machinery, recycling of machine elements and construction and consumables. -M1_W20

Skills

Can obtain information from literature, the Internet, databases and other sources. Can integrate the obtained information, interpret and draw conclusions from it, and create and justify opinions. -M1_U01

Can use computer office packages for editing technical texts, including formulas and tables, technical and economic calculations using a spreadsheet and running a simple relational database. -M1_U03

Can properly use modern equipment for measuring major physical quantities, used in machine research and production control. -M1_U04

Social competences

Is ready to critically assess his knowledge and received content. -M1_K01

Is ready to recognize the importance of knowledge in solving cognitive and practical problems and to consult experts in case of difficulties in solving the problem on its own. -M1_K02

Is willing to think and act in an entrepreneurial manner. -M1_K05

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written or oral test.

Programme content

Organizational structure of rail freight transport of PKP CARGO S.A. and rolling stock resources, regulations governing the maintenance process of rail and road vehicles, the maintenance process of rail vehicles at PKP CARGO S.A. and in bus depots of MPK Poznań Sp. z o. o., infrastructure and equipment in the maintenance process, planning of rail and road vehicle maintenance, logistics.

Teaching methods

1. Lecture with multimedia presentation

Bibliography

Basic

1. Krawczyński F., Nielwodzki J.: Zaplecze techniczne służby trakcji PKP. WKŁ, Warszawa.

2. Gruszyński J.: Eksploatacja taboru kolejowego. WKŁ, Warszawa 1984.



Additional

1. Gronowicz J, Kasprzak B.: Lokomotywy spalinowe. WKŁ, Warszawa 1989.
2. Podwozia i nadwozia pojazdów samochodowych. WKŁ Warszawa 2010
3. Silniki pojazdów samochodowych. WKŁ Warszawa 2009

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	45	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	30	1,0

¹ delete or add other activities as appropriate