



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Standards and regulations for rail vehicles [S2MiBP1-PSz>NiRdPSz]

### Course

Field of study

Mechanical and Automotive Engineering

Year/Semester

1/1

Area of study (specialization)

Railway Vehicles

Profile of study

general academic

Level of study

second-cycle

Course offered in

polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

1,00

### Coordinators

mgr inż. Mateusz Motyl

mateusz.motyl@put.poznan.pl

### Lecturers

mgr inż. Mateusz Motyl

mateusz.motyl@put.poznan.pl

### Prerequisites

The student has a basic knowledge of the construction and operation of rail vehicles. Student can solve specific problems in technical systems. The student shows independence in solving technical problems, gaining and improving acquired knowledge and skills.

### Course objective

The aim of the course is to get acquainted with the basic standards of technology and legal acts relating to rail vehicles.

### Course-related learning outcomes

Knowledge:

Has general knowledge of standardization, EU recommendations and directives, national, industry and international standards systems, and industrial standards.

Has a basic knowledge of quality management systems.

He knows the main development trends in the field of mechanical engineering.

Skills:

Can write user manual and safety manual for designed work machine or vehicle.  
 He can estimate the potential threats to the environment and people from the designed working machine and vehicle from a selected group.  
 He can develop a technical description, offer and design documentation for a complex machine from a selected group of machines.

Social competences:

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.

Is willing to think and act in an entrepreneurial manner.

Is ready to fulfill professional roles responsibly, taking into account changing social needs, including:

- developing the professional achievements,
- maintaining the ethos of the profession,
- observing and developing the rules of professional ethics and acting towards the observance of these rules.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Final test

### Programme content

EU legislation. Railway regulations. Standards for the construction of wagons. Standards for the approval and operation of wagons. Construction and operation standards. Symbols on the wagons.

### Teaching methods

Lecture: multimedia presentation, illustrated with examples given on the board.

### Bibliography

Basic

1. Directives and EU regulations
2. The act on rail transport
3. Technical Specifications for Interoperability
4. PN-EN standards

Additional

### Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	10	0,50