STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Railway vehicles construction and repair technology**		Code **1010624261010622455**
Field of study **Transport**	Profile of study (general academic, practical) **(brak)**	Year /Semester **3 / 6**
Elective path/specialty **Railway Transport**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **24** Classes: **10** Laboratory: **-** 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**		ECTS distribution (number and %) **100 3%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	The student has some basic knowledge about the aging processes and technical objects. In addition, knows the technology of construction and repair of motor vehicles, railway transport. The student knows the basic production technology selected teams of rail transport, methods of installation and final acceptance.
2	**Skills**	The student can use the acquired knowledge for the planning of the production process and car repairs of railway transport. The student can solve specific technical and technological problems arising in the production and repair of vehicles on motorways.
3	**Social competencies**	Students can work in groups, to organize the process of repair and production in its main features. The student determines the priorities is important in solving the set tasks. Student showing independence in solving technical problems, the acquisition and improvement of acquired knowledge and skills.

Assumptions and objectives of the course:

The objective is familiarizing with the physical processes of aging rail vehicles. Presentation technologies of construction and repair of cars, and also read the installation and odbiorami end of rail vehicles.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. has ordered podbudowaną theoretically knowledge in the field of parameters of technical and consumable materials for vehicles, knows the basic components and parts. Know the life cycle of vehicles. - [K1A_W14]

2. He has knowledge in the field of technical operation, knows, technical and economic aspects of life vehicles, the selection of parameters of use, factors performing certain changes to the state and the types of damage. - [K1A_W15]

Skills:

1. can get access to information from the literature, Internet, databases and other sources. - [K1A_U01]

2. knows how to communicate using different methods in a professional environment with formal record of design, technical drawings, concepts and definitions of the field studiowanego specialty. - [K1A_U02]

3. able to analyze the facilities and technical solutions, can search in catalogues and on sites of manufacturers of ready components of machines and equipment, to assess their suitability for use. - [K1A_U10]

4. may develop technology for the manufacture of simple system maintenance, and technologies of mounting and dismantling of this system. - [K1A_U14]

Social competencies:

1. understands the need and knows opportunities for continuous professional development in the field, knows the need to acquire new knowledge for professional development. - [K1A_K01]
2. have a sense of responsibility for their work and the willingness to obey the principles of cooperation in a team and be responsible for jointly fulfilled the task. - [K1A_K04]
3. in the mind transfer of the received knowledge society, making efforts that this information is understood. - [K1A _K08]

Assessment methods of study outcomes

A written exam, a Colloquium loans

Course description

constantly and plastics used in construction and repair of rail vehicles, damage to the units and transmission parts, offset, hold, car design, equipment and other items, the organization Department of the technological process at the plant, the physical processes of the use of railway vehicles, technology of production and repair of cars and vehicles, nodes and elements, and frame automobiles and motor vehicles, boxes, frames trucks, wheel sets, and other installation components, and machinery, equipment and wiring, attempts commands, security at repair and production of vehicles, the load final.

Basic bibliography:

1. Kozłowski M.: Budowa i eksploatacja pojazdów, t. II Obsługa, diagnostyka i naprawa zespołów i podzespołów. Wyd. Vogel Publishing, Wrocław 2003.

2. Marczewski R., Płończak Z., Podemski J.: Wagony towarowe, poradnik techniczny. WKŁ, Warszawa 1975.

3. Cypko J., Cypko E.: Podstawy technologii i organizacji naprawy pojazdów mechanicznych. WKŁ, Warszawa 1989.

4. Gieżyński S.: Technologia wytwarzania pojazdów szynowych. Wydawnictwo Politechniki Poznańskiej, Poznań 1979.

Additional bibliography:

1. Moczarski M.: Podstawy organizacji i techniki obsługiwania pojazdów szynowych. Wydawnictwo. Politechniki Warszawskiej, Warszawa 1986.

2. Gronowicz J., Technologia naprawy pojazdów szynowych, maszyny i urządzenia elektryczne. Wydawnictwo Politechniki Poznańskiej, Poznań 1993.

3. Marczewski R., Podemski J., Wózki wagonowe. Wydawnictwo Komunikacji i Łączności, Warszawa 1980.

Result of average student's workload

Activity	Time (working hours)
1. Preparation for the performance	5
2. Participation in lectures	30
3. Fixing the contents of the lectures	10
4. Consultations in lectures	3
5. Exam preparation	10
6. Participation in the exam	2
7. Preparing for exercises	5
8. Part in the exercises	30
9. Fixing the contents of physical exercises	5
10. Consultations for physical exercises	3
11. Preparation of set-off	5
12. Participation in success	2

Student's workload

Source of workload	hours	ECTS
Total workload	110	4
Contact hours	70	3
Practical activities	0	0