COURSE DESCRIPTION CARD - SYLLABUS

Course name

Automotive body constuction

Course

Field of study

Construction and Exploitation of Means of Transport

Year/Semester

1/1

Area of study (specialization)

Motor vehicles

Profile of study

general academic

Level of study

Second-cycle studies

Course offered in

Polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

9

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

dr inż. Hubert Pikosz

email: hubert.pikosz@put.poznan.pl

tel. 61 665 2880

Faculty of Civil and Transport Engineering

ul. Piotrowo 3 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

The student has basic knowledge of machine science, mechanics, the basics of machine construction and the laws of physics.

The student is able to integrate the obtained information, interpret it, draw conclusions, read diagrams and technical drawings.

The student is aware of the role of means of transport in human economic activity.

Course objective

Providing students with information on the construction of car bodies.

Course-related learning outcomes

Knowledge

Has an organized knowledge of the construction of modern car bodies.

The student knows the tasks, structure and properties of components of car bodies.

The student knows the influence of the vehicle body on the road safety of the motor vehicle.

Skills

The student is able to describe the tasks, principles of operation, design and functional variants, properties and the scope of applications of various solutions for car bodies.

He can interpret the phenomena accompanying the movement of the car in terms of its physical foundations and limitations.

Social competences

The student is able to independently develop his knowledge of the construction and properties of vehicles and their components.

The student knows the impact of vehicles on the efficiency of human operation and the environment.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The knowledge acquired during the lecture is verified by a written exam.

Programme content

Basic definitions, meaning and functions of the body, classifications and divisions of bodies.

Structure and design solutions used in vehicle bodies.

Support structures. Support frames. Self-supporting structures. Construction of supporting structures for vehicle bodies.

Vehicle body components. Floor plates, body platforms.

The flexural and torsional stiffness of the car body.

Outer plating and covers. External fittings. Windows, sunroofs, wiper mechanisms.

Ergonomics in vehicle body construcion.

Aerodynamics in automotive body construction.

Passive safety of the driver, vehicle passengers and pedestrians in body construction.

Truck, bus, semi-trailer and trailer bodies. Sports car bodies.

Teaching methods

Lecture with multimedia presentation.

Bibliography

Basic

Zieliński A.: Konstrukcja nadwozi samochodów osobowych I pochodnych, WKiŁ, 2008

Morello L., Rossini L. R., Pia G., Tonoli A.: The Automotive Body, Volume I: Components Design, Springer 2011

Morello L., Rossini L. R., Pia G., Tonoli A.: The Automotive Body, Volume II: System Design, Springer 2011

Additional

Piechna J.: Podstawy aerodynamiki pojazdów. Warszawa: WKŁ 2000.

Breakdown of average student's workload

	Hours	ECTS
Total workload	20	1,0
Classes requiring direct contact with the teacher	9	1,0
Student's own work (literature studies, preparation for exam) [1]	11	0,0

[1] delete or add other activities as appropriate