



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Finishing materials in the automotive industry [S1MiTPM1>MWwM]

Course

Field of study

Materials and technologies for automotive industry

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

15

Laboratory classes

15

Other

0

Tutorials

0

Projects/seminars

0

Number of credit points

2,00

Coordinators

dr hab. Izabela Szafraniak-Wiza prof. PP
izabela.szafraniak-wiza@put.poznan.pl

Lecturers

Prerequisites

Basic knowledge of physics, chemistry, materials science. The student has the ability to think logically, use information obtained from the library and the Internet. Understanding the need to learn and constantly acquire new knowledge .

Course objective

Basic knowledge about finishing materials used in the automotive industry Developing students' skills in solving simple problems related to the selection of finishing materials for specific applications in the automotive industry.

Course-related learning outcomes

Knowledge:

1. The student should characterize the basic types of finishing materials used in the automotive industry.
2. The student should be aware of the requirements for finishing materials and finishing processing in the automotive industry.

Skills:

1. The student is able to select a finishing material for specific applications in vehicles.
2. The student can perform simple measurements on finishing materials and draw conclusions.

Social competences:

1. The student is aware of the importance and understanding of the effects of manufacturing finishing materials and their impact on the environment.
2. The student understands the need to acquire new knowledge in connection with the research work carried out in the field of finishing materials.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture:

The good knowledge about the topics presented during the lectures (verified in the final colloquium).

Laboratory:

The attendance at all classes, performing all tasks and a positive assessment of the oral/written answers and/or the partial and/or final test.

Programme content

Basic issues related to various groups of finishing materials and finishing processes used in the automotive industry.

Course topics

Lecture:

Requirements for finishing materials in the automotive industry

Finishing processes in the automotive industry

Natural materials

Decorative metal coatings

Paints used in the automotive industry

Fabrics and textiles used for finishing elements in vehicles

Decorative glazes, decorative and colored glass

Luxury materials

Laboratory:

Microstructure of metallic coatings

Microstructure of non-metallic coatings

Coloured glass

Analysis and selection of finishing materials for specific applications

Identification of defects and their types in finishing materials

Teaching methods

Lecture: multimedia presentation, analysis of finished elements, case study, discussion

Laboratory: practical investigations using IIM research infrastructure (e.g. metallographic microscopes and available didactic sets for specific tasks in the topic), discussion and development of results, formulation of conclusions regarding the issues discussed during classes.

Bibliography

Basic:

L. A. Dobrzański, Materiały inżynierskie z podstawami technologii procesów materiałowych, Wydawnictwo Naukowe PWN, 2024

J. Jeznacki Materiałoznawstwo samochodowe, Wydawnictwa Komunikacji i Łączności, 1982

W. Martthes, Szkliva ceramiczne, KMD, 2022

Additional:

J. Idryjan-Pajor, Materiałoznawstwo odzieżowe, Wydawnictwo SOP 2022

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	20	1,00