



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Basics of construction notation [S1MiBP1>PZK]

Course

Field of study

Mechanical and Automotive Engineering

Year/Semester

1/1

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

30

Laboratory classes

15

Other

0

Tutorials

15

Projects/seminars

0

Number of credit points

6,00

Coordinators

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Lecturers

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Prerequisites

Basic knowledge of elementary geometry and stereometry. Basic knowledge of machine science and machine parts. The ability to solve problems based on the acquired knowledge and the ability to obtain information from the indicated sources

Course objective

Mastering the basic rules of constructing images of spatial creations on a plane. Shaping spatial imagination. Understanding the methods and principles of recording the structure. Acquiring the practical skills of creating drawing documentation and the ability to "read" drawings.

Course-related learning outcomes

Knowledge:

Has a basic knowledge of the standardized rules of notation of structures and engineering graphics

Skills:

Is able to prepare technical documentation, descriptive and drawing engineering tasks

Can draw a diagram and a simple machine element by hand in accordance with the rules of technical drawing

Social competences:

He is ready to critically assess his knowledge and received content

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

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Written exam of the lecture, completion of laboratories and exercises on the basis of the completed tasks and final credit.

Programme content

Introductory information, standardization in the construction record. Methods of mapping three-dimensional objects on the drawing plane. Presentation of the internal structure of the object by means of sections, types of sections. Presentation of the cross-section of an object by means of lays. Interference lines of intersecting typical solids. Notation of dimensions. Tolerances on production drawings and fits on assembly drawings. Geometric structure of the GSP surface. Working drawings of parts of the shaft and sleeve class. Splines. Detailed drawings of the wheel class parts; gears. Assembly drawings of threaded and splined connections. Simplifications in drawing rolling bearings. Rules for drawing welds and welded joints. Designing a bearing arrangement. Analysis ("reading") of assembly drawings.

Course topics

Introductory information, standardization in the construction record. Methods of mapping three-dimensional objects on the drawing plane. Presentation of the internal structure of the object by means of sections, types of sections. Presentation of the cross-section of an object by means of lays. Interference lines of intersecting typical solids. Notation of dimensions. Tolerances on production drawings and fits on assembly drawings. Geometric structure of the GSP surface. Working drawings of parts of the shaft and sleeve class. Splines. Detailed drawings of the wheel class parts; gears. Assembly drawings of threaded and splined connections. Simplifications in drawing rolling bearings. Rules for drawing welds and welded joints. Designing a bearing arrangement. Analysis ("reading") of assembly drawings.

Teaching methods

1. Lecture: multimedia presentation, supplemented with examples given on the blackboard
2. Laboratories: Illustrated teaching boards or multimedia presentations, supplemented with examples on the board; performing tasks given by the teacher → practical exercises
3. Exercises: Illustrated teaching boards or multimedia presentations, supplemented with examples on the blackboard; solving tasks shaping spatial imagination and demonstrating the rules applicable to the preparation of technical documentation

Bibliography

Basic

1. Dobrzański T., Rysunek techniczny maszynowy, WNT, W-wa 2017.
2. Lewandowski T., Rysunek techniczny dla mechaników, WSiP, W-wa 2009.
3. Bajkowski J., Podstawy zapisu konstrukcji, Oficyna Wyd. Polit. Warszawskiej, 2014
4. Bober A, Dudziak M., Zapis konstrukcji, PWN, W-wa 1999.
4. Jankowski W. Geometria Wykreślna. Wydawnictwo P.P. 1999 r.
6. Korczak J., Prętki Cz. Przekroje i rozwinięcia powierzchni walcowych i stożkowych. Wydawnictwo P.P. 1999 r.
7. Loska J., Zbiór zadań ćwiczeniowych z rysunku technicznego, Wyd. Politechniki Śląskiej, Gliwice 1982

Additional

1. Freuch T.E., Vierck C.I., Fundamentals of engineering drawing, McGraw-Hill Book Co., New York 1960.
2. Freuch T.E., Vierck C.I., Engineering drawing and graphic technology, McGraw-Hill Book Co., New York 1972.

Breakdown of average student's workload

	Hours	ECTS
Total workload	180	6,00
Classes requiring direct contact with the teacher	60	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	120	4,00