



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Technical drawing

### Course

Field of study

Year/Semester

Transport

1/1

Area of study (specialization)

Profile of study

general academic

Level of study

Course offered in

First-cycle studies

polish

Form of study

Requirements

full-time

compulsory

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

15

15

0

Tutorials

Projects/seminars

0

0

**Number of credit points**

5

### Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

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Faculty of Civil and Transport Engineering

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### Prerequisites

Basic knowledge of elementary geometry and stereometry.

Basic knowledge of machine science and machine parts

### Course objective

Mastering the basic rules of constructing images of spatial creations on a plane. Shaping spatial imagination.

Getting to know the methods and principles of recording the structure. Acquisition of practical skills in creating drawing documentation and the ability to "read" drawings.



### Course-related learning outcomes

#### Knowledge

The student knows the basic techniques, methods and tools used in the process of solving tasks in the field of transport, mainly of an engineering nature engineering

#### Skills

The student is able to obtain information from various sources, including literature and databases (both in Polish and in English), integrate it properly, interpret it and critically evaluate it, draw conclusions, and comprehensively justify his/her opinion.

The student can properly use information and communication techniques, applicable at various stages of the implementation of transport projects

#### Social competences

The student is aware of the social role of a technical university graduate, in particular, he/she understands the need to formulate and transfer to the society, in an appropriate style, information and opinions on engineering activities, technological achievements, as well as the achievements and traditions of the transport engineer profession

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written exam of the lecture, completion of the laboratories based on the tasks / exercises.

### Programme content

1. Introductory information, standardization in the construction record.
2. Methods of mapping three-dimensional objects on the drawing plane.
3. Presentation of the internal structure of the object by means of sections, types of sections.
4. Presentation of the cross-section of an object by means of lays.
5. The use of geometric constructions for drawing utility objects.
6. Interference lines of intersecting typical solids.
7. Notation of dimensions.
8. Tolerances on production drawings and fits on assembly drawings.
9. Geometric structure of the GSP surface.
10. Working drawings of parts of the shaft and sleeve class. Splines.
11. Detailed drawings of the wheel class parts; gears.
12. Assembly drawings of threaded and splined connections.



13. Simplifications in drawing rolling bearings.
14. Rules for drawing welds and welded joints.
15. Analysis ("reading") of assembly drawings.

### Teaching methods

1. Lecture: multimedia presentation with examples given on the blackboard
2. Laboratories: Illustrated teaching boards or multimedia presentations, supplemented with examples on the board; carrying out the tasks given by the teacher – practical exercises

### Bibliography

#### Basic

1. Dobrzański T., Rysunek techniczny maszynowy, WNT, W-wa 1997.
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	120	5,0
Classes requiring direct contact with the teacher	30	1,5
Student's own work (literature studies, preparation for tests) <sup>1</sup>	90	3,5

<sup>1</sup> delete or add other activities as appropriate