COURSE DESCRIPTION CARD - SYLLABUS

Course name

Basics of engineering graphics

Course

Field of study

Management and Production Engineerin

Year/Semester

1/2

Area of study (specialization)

-

Profile of study

general academic

Level of study

First-cycle studies

Course offered in

Polish

Form of study

part-time

Requirements

compulsory

Number of hours

Lecture

10

Laboratory classes

0

Other (e.g. online)

0

Tutorials

20

Projects/seminars

0

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

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Piotrowo 3, 60-965 Poznań, hala A15

Responsible for the course/lecturer:

Prerequisites

Basic knowledge of mathematics and technology as well as the ability to use drawing instruments.

Course objective

Shaping spatial imagination and acquainting them with the principles of mapping spatial objects on a plane. Developing the ability to create technical documentation of machine objects and structures; shaping the ability to read technical drawings.

Course-related learning outcomes

Knowledge

1. Has a structured knowledge of the rules of technical drawing.

2. Understands the importance of standardization in engineering graphics.

Skills

1. Can map a spatial object on a plane.

2. Can draw and dimension the basic elements of engineering structures.

3. Has the ability to make and read drawing documentation.

4. Can use the standards. Has the ability to self-educate.

Social competences

1. Can independently work on a designated task.

2. Understands the need for lifelong learning.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Preparation of a drawing of a geometric structure in the field of descriptive geometry.

Tutorials: preparation of purely drawings developed in the class in the form of sketches, a test consisting of 4 drawing parts, the first part: 8 short questions regarding the markings in the drawings, the remaining three concern the execution of: cross-sections, dimensioning and geometric construction.

Assessment rules: assessment based on the points obtained; tests: satisfactory grade after collecting at least 50.1% of the planned points from each of the required elements, a set of drawings made in accordance with the guidelines with applied corrections, assessed by the teacher.

Up to 50.0% - ndst, from 50.1% to 60.0% - dst, from 60.1% to 70.0% - dst +, from 70.1 to 80 - db, from 80.1% to 90 , 0% - db +, from 90.1% - very good.

Programme content

Lecture: Introduction to engineering graphics. Standardization in technical drawing. Basic elements of technical drawing: drawing sheets, scales, drawing lines, technical writing, drawing plates. Geometric structures. Determining sections of solids, lines of interferences and unfolding of solid surfaces.

Tutorials: Rectangular projection with the European method. Isometric projections and in diagonal dimetry. Simple and complex sections; half-view-half-section; partial section and rib section; lays. Special cases of views and sections: partial and auxiliary view, unfolded view and section, tearing and breaking of views and sections, details of an object in an enlarged view. Connections: detachable and non-detachable. Dimensioning. Sizing rules and order recommendations in practice. Designations of roughness, tolerances and fits in drawings. Executive drawings of basic machine parts: shaft, sleeve. Assembly and assembly drawings.

Teaching methods

Lecture: multimedia presentation illustrated with examples given on the board, analysis and solving of problems related to geometric structures.

Tutorials: multimedia presentation illustrated with examples given on the blackboard, drawing exercises, independent work, discussion.

Bibliography

Basic

1. Dobrzański T., Rysunek techniczny maszynowy, WNT, 2013.

2. Bober A., Dudziak M.: Zapis konstrukcji. Wyd. Politechniki Poznańskiej, Poznań 1996.

3. Lewandowski T., Rysunek techniczny dla mechaników, WSiP, 2018

Additional

1. Red. Potrykus J., Poradnik Mechanika, Wyd. REA, 2018

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	40	1,5
Student's own work (literature studies, preparation for tutorials, preparation for tests/exam, project preparation) [1]	60	2,5

[1] delete or add other activities as appropriate