STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Technical Graphics		**1011101411011120135**

Field of study	Profile of study (general academic, practical)	Year /Semester
Logistics - Full-time studies - First-cycle studies	**general academic**	**1 / 1**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**full-time**

No. of hours				No. of credits
Lecture: **15**	Classes: **15**	Laboratory: **-**	Project/seminars: **-**	**2**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
other	**university-wide**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of geometry and drawing from high school.
2	**Skills**	Efficient drawing. The student can apply typical methods of solving simple problems in the field of Engineering Graphics.
3	**Social competencies**	Understanding the importance of technical drawing in the work of an engineer.

Assumptions and objectives of the course:

-Purpose of the subject:

Introduction of the most important information from the field of technical drawing including Polish standards.

Familiarization with electrical, architectural and construction drawings and machine construction based on the information from the machine drawing. The ability to read technical drawing.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has a basic knowledge of: engineering graphics; design, technology, the construction and operation of machinery - [K1A_W05]

2. Student knows the basic methods, techniques, tools and materials used to solve simple engineering tasks in the field of Engineering Graphics. - [K1A_W24]

Skills:

1. . Is able to independently develop the problem that exists within the studied - [K1A_U05]

2. can conduct a critical analysis of the ways in which technical solutions function and assess, by means o - [K1A_U13]

3. Student can identify project tasks and solve simple engineering tasks in the field of Engineering Graphics. - [K1A_U17]

4. The student can apply typical methods of solving simple problems in the field of Engineering Graphics. - [K1A_U18]

Social competencies:

1. Is aware of the need for lifelong learning; inspiring and organizing the learning process of other persons within the framework of the studied subject areas - [K1A_K01]

2. Student is aware of validity and understands non-technical aspects and effects of engineering activities, including the impact on the environment, and connected liability for making decisions - [K1A_K08]

Assessment methods of study outcomes

-Formative evaluation:

a) Exercise: based on the assessment of the current exercise progress of the technical drawing

b) Lecture: based on the answers to questions concerning the material from previous lectures

Summary evaluation:

a) Exercise: credit in the form of technical drawings from the implemented contents of the program

b) Lecture: credit in the form of a selection test

Course description

-Program content:

The program of subject includes the following topics: types of drawings, sheet formats, standardized technical drawing elements, types and distribution of sections, views and intersections, dimensioning, tolerance of dimensions, shape and position , determination of surface roughness and waviness, connection of machine parts, axles, arbour, bearings, clutches and brakes. Drawing and reading of schemes: mechanical, hydraulic, pneumatic, thermal energy and vacuum technology, electrical drawing elements, chemical and architectural - construction. Drawings: Executives, assemblies, graphs and nomograms.

Educational methods:

a) Lecture: Monographic lecture using a computer with the division of program content into separate thematic issues in relation to the thematic scope of the exercises.

b) Excercise: exercise method with elements of demonstration method and causerie method according to the program content.

Basic bibliography:

1. Dobrzański T., Rysunek techniczny maszynowy, Wydawnictwo WNT, Warszawa 2015.

2. Filipowicz K., Kowal A., Kuczaj M., Rysunek techniczny, Wydawnictwo Politechniki Śląskiej, Gliwice 2016.

3. Zakres aktualnych aktów normatywnych z zakresu rysunku technicznego ? wymagania ogólne.

Additional bibliography:

1. ? Molasy R., Rysunek techniczny: chropowatość i falistość powierzchni, tolerancje geometryczne i tolerowanie wymiarów, Wydawnictwo Politechniki Świętokrzyskiej, Kielce, 2016

Result of average student's workload

Activity	Time (working hours)
1. Lecture	15
2. Classes	15
3. Consultation	15
4. Preparation for Classes	15

Student's workload

Source of workload	hours	ECTS
Total workload	60	2
Contact hours	45	1
Practical activities	15	1