# STUDY MODULE DESCRIPTION FORM

| Name of the module/subject | | Code |
|---|---|---|
| **Engineering graphics and CAD** | | **1011104121011125037** |

| Field of study | Profile of study (general academic, practical) | Year /Semester |
|---|---|---|
| **Safety Engineering - Part-time studies - First-** | **(brak)** | **1 / 2** |
| **Elective path/specialty** | **Subject offered in:** | **Course (compulsory, elective)** |
| **-** | **Polish** | **obligatory** |

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

| No. of hours | | | | | No. of credits |
|---|---|---|---|---|---|
| Lecture: **10** | Classes: **8** | Laboratory: **8** | Project/seminars: **-** | | **6** |

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

| Education areas and fields of science and art | ECTS distribution (number and %) |
|---|---|
| | |

**Responsible for subject / lecturer:**

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## Prerequisites in terms of knowledge, skills and social competencies:

| | | |
|---|---|---|
| 1 | **Knowledge** | Basic knowledge from high school. The necessary information in the field of technology and machine parts will be explained subsequently. |
| 2 | **Skills** | Efficient drawing |
| 3 | **Social competencies** | Understanding the importance of technical drawing in a work of an engineer. |

## Assumptions and objectives of the course:

The aim of the course is to familiarize students with the most important information in the field of technical drawings including PN. Based on information from the machine drawing the student gets acquainted with electrical drawings, architectural - construction and other as well as develops the ability to read technical drawings.

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

### Knowledge:

1. Knows fundamental methods, techniques, tools and materials that are applied in solving simple engineering tasks relating building and machines? exploitation - [K04-InzA_W02]

### Skills:

1. Is able to identify the project tasks and solve simple design tasks within the construction and operation of machinery - [K01-InzA_U6]
2. . Can apply typical methods for dealing with simple problems existing in the construction and operation of machinery - [InzA_U06-K01, K01-InzA_U7]
3. Can design a simple structure and technology of simple machinery parts and components as well as design the organization of the production units of the first complexity degree - [K01-InzA_U8]

### Social competencies:

1. Understands the need and knows means how to self-study ( first, second and third cycle studies, postgraduate studies, qualification courses)- improving professional, personal and social competence - [K01-InzA_K1]

## Assessment methods of study outcomes

Formative assessment:

Classes: on the basis of the of the progress of the project tasks from technical drawing

Lectures: on the basis of the answers to the questions regarding the covered material during previous lectures

Collective assessment:

Lecture: exam- multiple choice test

Classes: public presentation of the prepared drawing, conducting a discussion connected with the presentation as well as the quality form of the prepared materials

## Course description

The course covers the following topics : types of drawings, sheet formats, standard elements of technical drawing, drawings and their location, views and sections, dimensioning, tolerance dimensions, the shape and position, designation of roughness and waviness, connections of machine parts, axles, shafts, bearings, clutches and brakes. Drawing and reading: schemas :: mechanical, hydraulic, pneumatic, thermal energy and vacuum techniques, elements of electrical, chemical and architectural ? construction drawings. Drawings: charts and nomograms.

## 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 | 30 |
| 2. Classes | 15 |
| 3. consultation | 30 |
| 4. preparation for classes | 15 |
| 5. revision of the material | 15 |
| 6. preparation for an exam | 15 |
| 7. exam | 0 |

## Student’s workload

| Source of workload | hours | ECTS |
|---|---|---|
| Total workload | 120 | 4 |
| Contact hours | 90 | 3 |
| Practical activities | 45 | 1 |