# STUDY MODULE DESCRIPTION FORM

| Name of the module/subject | | Code |
|---|---|---|
| **Engineering Graphics and CAD** | | **1010401121010210484** |
| Field of study<br>**EDUCATION IN TECHNOLOGY AND** | Profile of study (general academic, practical)<br>**(brak)** | Year /Semester<br>**1 / 2** |
| Elective path/specialty<br>**-** | Subject offered in:<br>**Polish** | Course (compulsory, elective)<br>**obligatory** |
| Cycle of study:<br>**First-cycle studies** | Form of study (full-time,part-time)<br>**full-time** | |
| No. of hours<br>Lecture: **2** Classes: **-** Laboratory: **2** Project/seminars: **-** | | No. of credits<br>**4** |
| Status of the course in the study program (Basic, major, other)<br>**(brak)** | (university-wide, from another field)<br>**(brak)** | |
| Education areas and fields of science and art<br>**technical sciences** | | ECTS distribution (number and %)<br>**4 100%** |

## Responsible for subject / lecturer:

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

| | | |
|---|---|---|
| 1 | **Knowledge** | Fundamental knowledge in mathematics, with particular consideration of geometry (curriculum basis of secondary education, the basic level) |
| 2 | **Skills** | The skill in execution of fundamental geometrical constructions based on formerly acquired knowledge, the skill in extracting information from properly selected sources |
| 3 | **Social competencies** | Understanding the need of enlarging his/her competences, ability to cooperate and work in a team |

## Assumptions and objectives of the course:

- Teaching the fundamentals of engineering graphics, engineering drawing, and the rules of drawing up the technical documentation, in the scope defined by the curriculum of the studies
- Developing the skills in imaging the parts and assemblies on the drawings made with the help of traditional drawing instruments and CAD software, with consideration of any details
- Expanding student?s skill in working in a team

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

### Knowledge:

1. The student credited with the course knows the rules of engineering graphics and technical drawing. - [-]
2. Has a basic knowledge in the scope of computer aided technical education. - [-]

### Skills:

1. The student credited with the course is able to draw and to dimension basic elements of engineering structures - [-]
2. Is able to make use of the computer software for aiding the designing process (e.g. CAD). - [-]

### Social competencies:

1. The student credited with the course is able to elaborate the task individually and to cooperate in a team, assuming various roles. He/she shows professionalism in the work and responsibility for the decisions he/she takes. - [-]
2. Follows the rules of fundamental professional ethics. - [-]
3. Is able to think and act in an entrepreneurial and innovative way. - [-]

## Assessment methods of study outcomes

- Oral/written examination
- Appraisal of student?s activity and skills during laboratory lessons

## Course description

- Drawing sheets, the rules of projection. Geometrical constructions. Elements of descriptive geometry. Drawing the lines of intersection of various solids with the help of drawing instruments.
- Introduction to AUTOCAD software and execution of accurate drawings with the use of it.
- Drawing the views and cross sections of the details. Dimensioning rules. Drawing and dimensioning of springs, gears, threads.
- Accurate drawing of involute tooth profile and the teeth of cooperating gears.
- Making the detail and assembly drawings

## Basic bibliography:

1. Dobrzański T.: Rysunek techniczny maszynowy, WNT, Warszawa, 2002
2. Bieliński A.: Geometria wykreślna, Oficyna Wydawnicza Politechniki Warszawskiej, 2005

## Additional bibliography:

1. Rutkowski A.: Części maszyn, Wydawnictwa Szkolne i Pedagogiczne, 2002

## Result of average student's workload

| Activity | Time (working hours) |
|---|---|
| | |

## Student's workload

| Source of workload | hours | ECTS |
|---|---|---|
| Total workload | 159 | 4 |
| Contact hours | 66 | 2 |
| Practical activities | 93 | 2 |