

Detailed course description
(SUBJECT CARD)

Course title: Technical Drawing/Grafika inżynierska

Course code:

Affiliation to a course group:

Course type: core

Field of study: Chemistry

Level of study: first-cycle programme

Study profile: general academic

Mode of study: full-time programme

Specialty (specialisation):

Year of study: I

Semester: II

Teaching modes and teaching hours: Classes – 30

Language/s of instruction: English/polish

Number of ECTS credits 3

* – leave the appropriate option

1. Course objectives:

Main objective of the course is to provide practical fundamentals of reading and creation of technical documentation describing chemical apparatus as well as environmental protection apparatus, compliant with relevant standards. The scope includes creation of assembly drawings, workshop drawings and technological diagrams.

2. Relating the field-specific learning outcomes to teaching modes, verification methods and assessment of student's learning outcomes:

symbol	assumed learning outcomes <i>a student who completed the course:</i>	teaching modes	verification methods and learning outcome assessment
Knowledge: a student knows and understands			
K1A_W21	Student has basic knowledge of descriptive geometric constructions	Classes	Exercise and project work, answer
Skills: a student can			
K1A_U18	Knows and can the rules for creating technical documentation in the form of drawings and relevant standards	Classes	Exercise and project work, answer
K1A_U19	Student can create drawing documentation of a given model using appropriate techniques and tools, in accordance with applicable standards	Classes	Exercise and project work, answer
K1A_U26	Student can read technical documentation in the form of drawings, can dimension drawing objects in accordance with applicable rules and standards	Classes	Exercise and project work, answer

3. Study programme contents ensuring the learning outcomes (*according to the study programme*):

Student has basic knowledge of descriptive geometry. Knows the rules for creating technical documentation in the form of drawings and relevant standards. Is able to independently create drawing documentation of a given model using appropriate techniques and tools, in accordance with applicable standards and is able to read technical documentation in the form of drawings, is able to dimension drawing objects in accordance with applicable rules and standards. Is aware of the need to constantly improve their qualifications and update knowledge in the field of technical drawing norms and standards. Is well prepared for independent

work, shows commitment and observes the principles of ethics.

4. Description of methods to determine the ECTS credits:

Type of activity	Number of hours / ECTS credits
Number of course hours regardless of a teaching mode	30/1
Student workload 1* Preparation for classes	15/0,5
Student workload 2* Preparation of exercise and design work	30/1
Student workload n*	
Other** consultations	15/0,5
Total hours:	90
Number of ECTS credits allocated for a course	3

Description:

* – student workload, types of activities need to be provided, e.g. preparation for the course, interpretation of results, preparation of a course report, preparation for the examination, getting familiar with the literature, preparation of a project, presentation, written work, report, etc.

** – other e.g. additional course hours

5. Summary indicators:

- number of course hours and ECTS credits at the course with a direct participation of academic teachers or other persons teaching the course and students: 45/1,5
- number of course hours and ECTS credits at the course related to the scientific activity conducted at the Silesian University of Technology in a discipline or in disciplines to which a field of study is assigned- in the case of studies with a general academic profile:
- number of course hours and ECTS credits at the course shaping practical skills- in the case of practical studies:
- number of course hours conducted by academic teachers employed by the Silesian University of Technology as their primary workplace: 30

6. Persons conducting particular types of courses (name, surname, academic degree or degree in arts, title of professor, business e-mail address):

Dr inż. Krzysztof Kiraga, krzysztof.kiraga@polsl.pl

Dr inż. Wojciech Mokrosz, wojciech.mokrosz@polsl.pl

7. Detailed description of teaching modes:

1) Classes

- detailed programme contents:

Fundamentals of technical drawing, geometry of apparatus coatings enabling reading and making construction drawings and technical documentation. The program includes: drawing standards, geometric constructions, drawing flat figures, drawing solids, axonometric projections, rectangular projections, views, cross-sections and layouts, dimensioning principles, drawing connections, elements of devices and apparatuses, elements of apparatus coatings geometry, technological diagrams, apparatus cross-sections

- teaching methods, including distant learning:

implementation of 5 exercise and design topics, topics and materials for work available at <https://platforma.polsl.pl> technology,

- form and criteria for successful semester completion, including retakes, as well as the conditions for admission to the examination:

Completed 5 obligatory exercises and projects and positive assessment of oral responses

- course organisation and rules of participation in the course, with an indication whether a student 's attendance is obligatory

Classes conducted for 15 weeks (2 hours / week), obligatory attendance

8. Description of the method to determine the final grade (rules and criteria for evaluation, as well as a calculation method for the evaluation in the case of a course which includes more than one teaching mode, including all teaching modes and all examination and credit dates including retake examinations):

The basis for completing the course is a positive grade on all exercises and projects

The final grade is calculated as the arithmetic mean of the partial

grades

Final grade:

average: 3.00 - 3, 25: final grade 3.0

average: 3.26 - 3.75: final grade 3.5

average: 3.76 - 4, 25: final grade 4.0

average: 4.26 - 4.75: final grade 4.5

average: 4.76 - 5.00: final grade 5.0

9. Method and procedure for filling up arrears resulting from:

- student's absence from the course,

individually according to the situation

- differences in study programmes for persons changing a field of study, changing university or resuming studies at the Silesian University of Technology,

individually according to the situation

10. Prerequisites and additional requirements, taking into account the course sequence:

Basic English and basic descriptive geometry methods are required

11. Recommended sources and teaching aids:

1. T. Dobrzański: Rysunek techniczny. WNT, Warszawa 1985 i wyd. późniejsze

2. T. Dobrzański: Rysunek techniczny maszynowy. WNT, Warszawa 1985 i wyd. późniejsze

3. J. Pikoń: Atlas konstrukcji aparatury chemicznej PWN, Warszawa 1987

12. Description of teacher's competences (e.g. publications, professional experience, certificates, trainings etc. related to the programme contents implemented as part of the course):

20 years of experience in conducting technical drawing classes,
participation in numerous conceptual and drawing projects for industry,
preparing assembly and assembly documentation for the needs of industrial
implementations

12. Other information: