



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Technical Drawings and CAD

### Course

Field of study

Environmental Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

1 / 2

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

30

Tutorials

Projects/seminars

### Number of credit points

3

### Lecturers

Responsible for the course/lecturer:

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Faculty of Environmental Engineering and  
Energy

Berdychowo 4, 61-131 Poznań

Responsible for the course/lecturer:



### Prerequisites

Knowledge of the principles of technical drawing.

Basic knowledge of CAD software.

Ability to work in team. Awareness of the need to continually update and supplement one's knowledge and skills.

### Course objective

Improving students' skills in making design drawings and technical diagrams using modern CAD software, primarily in the field of building utility installations.

### Course-related learning outcomes

#### Knowledge

Principles of drawing complex technical installations (plan view, cross-section, details, technical diagrams, P&ID drawings, isometric view, pipeline profile).

Advanced knowledge about working with selected CAD software (including preparing complex layouts for printing).

#### Skills

Student can make CAD drawing of complex building utility installation using an existing construction drawing (plan and cross-section), as a technical diagram, also using isometric view.

Student can correctly prepare complex printing layout.

Student can make simple 3D drawing.

#### Social competences

Awareness of the need to constantly acquire and expand knowledge in order to competently pursue the career in engineering.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Checking and marking of technical drawings made by the student during the classes.

### Programme content

Practical drawing exercises using CAD software:

- diagrams of central heating system,
- diagrams of plumbing system,
- plan and cross-section of HVAC system,
- diagrams of water supply system (isometric),



- profile drawings of municipal utility pipelines,
- printing layouts,
- simple 3D drawings.

### Teaching methods

Multimedia presentation and practical tasks performed by students (drawing using CAD software).

### Bibliography

Basic

Rysunek techniczny w mechanice i budowie maszyn, Paweł Romanowicz, PWN 2018 (available on IBUK web platform).

Additional

Polish standards concerning technical drawings.

Manuals and tutorials made available by CAD software providers.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (preparation for tutorials and laboratory classes - studying literature, additional drawing exercises prepared by the teacher and made outside classes) <sup>1</sup>	45	2,0

<sup>1</sup> delete or add other activities as appropriate