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 / 1

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

Number of hours

Lecture

Laboratory classes

15

Other (e.g. online)

Tutorials

15

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

Basic knowledge about Windows operating system.

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

Course objective

Learning the skills necessary to prepare technical drawings, especially for HVAC and other building systems, using specialized CAD software.

Course-related learning outcomes

Knowledge

Basic principles of machine technical drawing (side-view, cross-section, dimensions, comments).

Rules applicable in architectural and building utility systems drawings (cross-view, dimensions, symbols).

Principles of drawing and symbols used in technical diagrams and axonometric/isometric drawings of building utility systems.

Knowledge on how to use selected CAD software.

Skills

Student can prepare simple technical drawing on paper.

Student can draw single part of mechanical device using CAD software.

Student can draw simple building (plan view and cross-section) using CAD software.

Student can make a drawing of simple building utility installation as a plan drawing, simple technical diagram and isometric diagram, using CAD software.

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 grading technical drawings made by student during the classes.

Programme content

Tutorials:

- general principles of technical drawing - paper sizes, drawing scale, tables, comments, line thicknesses, types of lines,

- mechanical drawing principles - side-view, section, details, dimensioning, dimensional tolerance, comments,

- construction drawing principles - projections, cross-sections, dimensioning, types of lines, hatches, comments,

- building utility systems drawing principles - drawing HVAC systems on existing construction drawings, drawing simple diagrams, axonometric view, isometric view, symbols, descriptions, specifications,

- preparing simple technical drawings on paper.

Laboratory classes:

- practical drawing exercises based on the knowledge provided in tutorials, using CAD software.

Teaching methods

Exercises: multimedia presentation and practical tasks performed by students (drawing on paper).

Laboratory classes: 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 standarts 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) [1]	45	2,0

[1] delete or add other activities as appropriate