POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name

Engineering Graphics

Course

Field of study	Year/Semester
Technical Physics	1/2
Area of study (specialization)	Profile of study
-	general academic
Level of study	Course offered in
First-cycle studies	polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
15	30	0
Tutorials	Projects/seminars	
0	15	

Number of credit points

5

Lecturers

Responsible for the course/lecturer:

DSc Eng. Michał Śledziński

email: michal.sledzinski@put.poznan.pl

tel. +48 61 224 4513

Faculty of Mechanical Engineering

Piotrowo 3 Street, 61-138 Poznań

Responsible for the course/lecturer:

Prerequisites

Basics of construction graphics. Basics of informatics. Basics of engineering. Elementary knowledge of the construction and operation of machines and devices. Preparation of classic technical documentation. Basic knowledge of Windows and Microsoft Office; Imagination. Sketching. Individual and team work. Honesty. Reliability and systematicity. Activity.

Course objective

Getting acqauinted with the methodology of building three-dimensional models in the CAD system, familiarization with the procedures of 2D and 3D documentation in the CAD system. Graphical construction projection.

POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

Course-related learning outcomes

Knowledge

1. Knowledge of the 3D CAD model building procedures; Rectangular projections. Standardized graphic elements.

2. Knowledge of the procedures for generating 2D technical documentation; Axonometry. Views, sections.

3. Knowledge of the method of simulation in 3D CAD systems; Sizing rules. Tolerances.

Skills

1. Designing of the machine elements and assemblies in 3D CAD systems; Drawing connections and parts.

2. Simulation of assembly and disassembly as well as the functioning of selected machine sets.

3. Efficient generation of the technical documentation in the CAD system; Dimensioning. Prepraing drawings.

Social competences

1. Can think creatively and innovatively. It learns from its mistakes.

2. Recognizes the impact of knowledge and professional development on the level of their life and society.

3. He can think pro-ecologically.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Credit for the laboratory on the basis of the effects of work and practical test; Current assessment of progress in the preparation of sketches during classes. Inspection and evaluation of technical drawings. Tests on the knowledge of the rules and practical drawing skills. Assessment of the ability to work with standards as part of an individual project.

Programme content

1. During the laboratory classes, the implementation of the product design process in the 3D CAD system through preliminary design, 3D model, 2D documentation, assembly of the assembly, animation of the product operation;

2. Teaching the principles of making drawings in the system of rectangular projections and axonometric drawings.

3. Practicing the ability to independently make technical drawings of real objects and acquiring the ability to read graphic technical documentation.

POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

4. Acquiring skills in dimensioning machine parts, taking into account the technology of manufacturing elements.

5. Preparation of assembly and executive drawings.

Teaching methods

Lecture: presentation illustrated with examples given on the board, solving problems.

Laboratory exercises: practical exercises, conducting experiments, taking measurements, discussion, working in a team.

Project: individual student project work, discussion.

Bibliography

Basic

1. Bajkowski J.: Podstawy zapisu konstrukcji. WydawnictwoPolitechnikiWarszawskiej 2014.

2. Bober A., Dudziak M.: Zapis konstrukcji. PWN Warszawa 1999.

3. Dobrzański T.: Rysunek techniczny maszynowy. WNT Warszawa 2009.

4. Foley J., Dam A., Hughes J., Phillips R., Wprowadzenie do grafiki komputerowej, Warszawa, WNT 2001.

5. Jankowski M, Elementy grafiki komputerowej, WNT Warszawa 1990.

6. Krawiec P. (red), Grafika Komputerowa – laboratorium. Wydawnictwo Politechniki Poznańskiej, 2011;

7. Lewandowski T.: Rysunek techniczny dla mechaników. WSiP Warszawa 2010.

Additional

Osiński J., Wspomagane komputerowo projektowanie typowych zespołów i elementów maszyn. Warszawa, PWN 1994

Breakdown of average student's workload

	Hours	ECTS
Total workload	134	5,0
Classes requiring direct contact with the teacher	64	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	105	4,0

---

[1] delete or add other activities as appropriate