



Name of module/subject	Code
Introduction to CAD	

COURSE DESCRIPTION CARD		
Field of study Transport	Training profile (general academic/practical) practical	Year / Semester
Specialization Logistics and transport technology	Subject offered in: Polish	Course (obligatory/optional) obligatory
No. of lecture hours: 0 No. of self-studying hours: 30	ECTS 2	
Cycle of studies: first	Form of studies (full time/weekends) Full time	Field of studies Management and Transport
Status of subject in curriculum (basic, specialized, other) (general academic, from other department) Basic sciences general academic Unit providing the training: Institute of Management and Transport		
Lecturer in charge of the subject: dr inż. Maciej Berdychowski		
Initial requirements in knowledge, skills, social competences:		
1	Knowledge:	Basic knowledge of technical drawing. Basic knowledge from elementary geometry and stereometry. Basic knowledge of machine science and machine parts
2	Skills:	The ability to prepare and understand technical documentation of the product. Ability to solve problems based on your knowledge and the ability to obtain information from the indicated sources.
3	Social competences	Understanding the need to broaden their competences, readiness to cooperate within the team
The aim of the subject: The aim of the course is to: acquire practical skills of students to use computer aided engineering systems, learn the methodology of designing parts and assemblies in three-dimensional 3D, acquiring the ability to perform 2D technical documentation using CAD systems		
Training outcomes		
Knowledge As a result of the training course a student is able to:		Reference to field-related training outcomes

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1	Has knowledge of machine technical drawing. It characterizes essential elements of the machine design and construction process. Lists the techniques of creating vehicle structures using CAD software	K_W08	
Skills As a result of the training course a student is able to:		Reference to field-related training outcomes	
1	Design and execute by hand and with the use of computer-aided design documentation of machinery and equipment.	K_U12	
2	Has the ability to self-study, including to improve professional skills, using modern teaching tools, such as remote lectures, websites, teaching programs and e-books.	K_U05	
Competences As a result of the training course a student is able to:		Reference to field-related training outcomes	
1	He is aware of the need for continuous training. He understands the social role of a technical university graduate.	K_K01	
2	He is aware of the responsibility for his own work and readiness to comply with the principles of cooperation in a team and to take responsibility for the tasks he or she has carried out jointly.	K_K04	
Accepted grading criteria			
Local grade	Local definition	ECTS grade	ECTS definition
5	Bardzo dobry [very good]– perfect knowledge, skills, competences	A	Celujący [exemplary] – extraordinary achievements
4,5	Dobry plus [good plus]– very good knowledge, skills, competences	B	Bardzo dobry [very good] – above average standards with some mistakes
4	Dobry [good] – good knowledge, skills, competences	C	Dobry [good] – general good work with some noticeable mistakes
3,5	Dostateczny plus [satisfactory plus] – satisfactory knowledge, skills, competences but with significant shortcomings	D	Zadowalający [satisfactory] – satisfactory but with significant mistakes
3	Dostateczny [satisfactory] – satisfactory knowledge, skills, competences but with numerous shortcomings (threshold 60% of the requirements)	E	Dostateczny [satisfactory] – outcomes meet minimal criteria
2	Niedostateczny [insufficient] – insufficient knowledge, skills and competences (below 60% of the requirements)	FX, F	Niedostateczny [insufficient] – basic shortcomings in material
Assumed grading methods			
Ongoing student evaluation, final test			

Curriculum content

Historical outline CAD, Raster graphics, vector graphics, 3D graphics. Areas of application of CAD, CAM and CAE systems. Place of computer graphics in Computer Integrated CIM Generation. Practical learning about the possibilities of parameterization, adaptability, and variation in professional CAD systems. Basics of the AutoCAD environment, creation of 2D documentation, role and importance of layers in the CAD system, libraries in CAD systems, preparation of a drawing for printing.

Main bibliography:

1. Foley J., Dam A., Hughes J., Phillips R., Wprowadzenie do grafiki komputerowej, Warszawa, WNT 2001.
2. Jankowski M, Elementy grafiki komputerowej, WNT Warszawa 1990.
3. Krawiec P. (red), Grafika Komputerowa - laboratorium. Wydawnictwo Politechniki Poznańskiej 2011

Supplementary bibliography:

1. Kiciak P. Podstawy modelowania krzywych i powierzchni : zastosowania w grafice komputerowej WNT 2005
2. Dobrzański T., Rysunek techniczny maszynowy, WNT, W-wa 1997.
3. Lewandowski T., Rysunek techniczny dla mechaników, WSiP, W-wa 2009

Student's involvement

Form of activity	Hours	ECTS
Total number of hours	64	2
Hours requiring direct contact with a lecturer	34	1
Activities requiring self-studying	30	1