

COURSE DESCRIPTION CARD			
The name of the course/module DESCRIPTIVE GEOMETRY WITH ELEMENTS OF MATHEMATICS 1 DESCRIPTIVE GEOMETRY WITH ELEMENTS OF MATHEMATICS 1 - classes			Code A_P_1.1_006
Main field of study ARCHITECTURE		Educational profile (general academic, practical) general academic	Year / term I/1
Specjalization -		Language of course: Polish	Course (core, elective) core
Hours Lectures: 15 Classes: 30 Laboratory - Projects / seminars: - classes:			Number of points 3
Level of qualification: I	Form of studies (full-time studies/part-time studies) Full-time studies and part-time studies	Education area(s) Technical Sciences	ECTS division (number and %) 100%
Course status in the studies' program (basic, directional, other) Basic		(general academic, from a different major) -	
Lecturer responsible for the course: dr Jacek Gruszka e-mail: jacek.gruszka@put.poznan.pl Institute of Mathematics ul. Piotrowo 3a, 60-965 Poznań tel.: 61 665 23 20		Lecturer: dr Jacek Gruszka e-mail: jacek.gruszka@put.poznan.pl Institute of Mathematics ul. Piotrowo 3a, 60-965 Poznań tel.: 61 665 23 20	
Prerequisites defined in terms of knowledge, skills, social competences:			
1	Knowledge:	Knowledge of algebraic conversions, basic concepts and geometrical dependences on secondary school level.	
2	Skills:	Knowledge and application of basic geometrical structures.	
3	Social Competences	Knowledge of limitations of own knowledge and understand the need for further education.	
Objectives of the course: The ability to geometrical mapping and transformation of objects in space onto two-dimensional plane; learning restitution methods; understanding record drawings.			
Learning outcomes			
Knowledge:			
W01	Student has knowledge of parallel projections in particular of orthographic projection and its properties;	AU1_W07 AU1_W08	
W02	Student has knowledge of basic structures of descriptive geometry;	AU1_W07 AU1_W08	
W03	Student has knowledge of restitution methods;	AU1_W07 AU1_W08	
W04	Student has knowledge of types of illumination and related to them structures of shadow;	AU1_W07 AU1_W08	
W05	Student has knowledge of types of conics and them structures as well as using them to plane construction.	AU1_W07 AU1_W08	
Skills:			

U01	Student is able to solve task related to indication of common elements of spatial objects, its structures of projections, related to designing roof, designation of solid section, designation of penetration lines;	AU1_U06
U02	Student is able to draught solid axonometry and its shadows;	AU1_U06
U03	Student is able to draught projections of architectural detail with proper arrangement.	AU1_U07
Social competences:		
K01	Student can work over a set task independently;	AU1_K01
K02	Student understands the need of continuous self-education.	AU1_K03
The evaluation methods		
Formative assessment: <ul style="list-style-type: none"> • 3 Tests per term, evaluation in points: 0-20 points. • Homework – project in A3 format, essential quite correct, there is assessed the quality of work, evaluation in points: 5-10 points. Final grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0		
Summative assessment: <ul style="list-style-type: none"> • Credit of classes and lectures based on mentioned above documented knowledge and skills. Final grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0		
Positive grade for module depends on achieved by student all learning outcomes specified in the syllabus.		
Course contents		
<ul style="list-style-type: none"> • Invariants of parallel projection • Belonging and shared elements • Transformation of projective plane system, transformation of solid figure • Transformations in measuring tasks • Revolutions and rabattements • Flat roofs • Orthogonal axonometry. Oblique axonometry • Shadows in axonometry. • Shadows in orthographic projections • Permeation of polyhedrons • Cone structures • Section of cylinder and cone 		
Basic bibliography:		
<ol style="list-style-type: none"> 1. W. Jankowski, <i>Geometria wykreślna</i> Wydawnictwo Politechniki Poznańskiej, Poznań 1993 (i późniejsze), 2. B. Grochowski, <i>Geometria wykreślna z perspektywą stosowaną</i> Wydawnictwo Naukowe PWN, Warszawa 1999 (i późniejsze), 		
Supplementary bibliography:		
<ol style="list-style-type: none"> 1. Otto F., Otto E., <i>Podręcznik geometrii wykreślnej</i>, PWN, Warszawa 1979 (i późniejsze) 2. Korczak J., Prętki Cz., <i>Przekroje i rozwinięcia powierzchni walcowych i stożkowych</i>, Wydawnictwo PP, Poznań 1993 (i późniejsze) 		
The student workload		
Form of activity	Hours	ECTS
Overall expenditure	75	3
Classes requiring an individual contact with teacher	50	2
Practical classes	50	-

Balance the workload of the average student

Form of activity	Number of hours
participation in lectures	15 h
participation in classes/ laboratory classes (projects)	30 h
preparation for classes/ laboratory classes	5 h
preparation to colloquium/final review	15 h
participation in consultation related to realization of learning process	10 h
preparation to the exam	-
attendance at exam	-

Overall expenditure of student: **3 ECTS credits 75 h**

As part of this specified student workload:

- activities that require direct participation of teachers: **2 ECTS credits**