

MODULE SPECIFICATION

Module code	
Module title in Polish	Geometria wykreślna i rysunek techniczny 1
Module title in English	Descriptive Geometry and Technical Drawing 1
Module running from the academic year	2016/2017

A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

Field of study	Civil Engineering
Level of qualification	First cycle <i>(first cycle, second cycle)</i>
Studies profile	Academic <i>(academic/practical)</i>
Mode of study	Full-time <i>(full-time / part-time)</i>
Specialism	The Department of Architecture and Town Planning
Organisational unit responsible for module delivery	Piotr Dobosz, PhD
Module co-ordinator	
Approved by	Marek Iwański, Professor

B. MODULE OVERVIEW

Module type	Core module <i>(core/programme-specific/elective HES*)</i>
Module status	Compulsory module <i>(compulsory / non-compulsory)</i>
Language of module delivery	English
Semester in the programme of study in which the module is taught	Semester 1
Semester in the academic year in which the module is taught	Winter semester <i>(winter / summer)</i>
Pre-requisites	None <i>(module code/module title, where appropriate)</i>
Examination required	No <i>(yes / no)</i>
ECTS credits	3

Mode of instruction	lectures	classes	laboratories	project	others
Total hours per semester	15		15		

* elective HES – elective modules in the Humanities and Economic and Social Sciences

C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aim of the module is to stimulate students' spatial imagination and familiarize students with projection methods of spatial objects on a plane of a drawing as well as with the principles of preparing (and uniform reading) technical drawings according to current norms.
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Module outcome code	Module learning outcomes	Mode of instruction (l/l/lab/p/others)	Corresponding programme outcome code	Corresponding discipline-specific outcome code
W_01	A student has knowledge of basic projection methods applied in engineering practice.	l/l	B_W05	T1A_W01 T1A_W02 T1A_W03 T1A_W07
W_02	A student has knowledge on the principles of drawing rectangular projections as well as polyhedron axonometry.	l/l	B_W01 B_W05	T1A_W01 T1A_W02 T1A_W03 T1A_W07
W_03	A student has knowledge on the fundamentals of naming building elements, graphical labelling as well as basic dimensioning principles.	l/l	B_W05	T1A_W01 T1A_W02 T1A_W03 T1A_W07
U_01	A student has the ability of appropriate application of projection methods in engineering practice.	l/l	B_U07	T1A_U03 T1A_U05 T1A_U14 T1A_U15 T1A_U16
U_02	A student has the ability of reading information included in architectural and construction drawings (as well as preparing the drawings of basic construction elements).	l	B_U06 B_U07	T1A_U03 T1A_U05 T1A_U07 T1A_U14 T1A_U15 T1A_U16
K_01	A student can obtain the necessary knowledge and work independently.	l	B_K01	T1A_K01 T1A_K03 T1A_K04
K_02	A student is communicative in the formulated conclusions and discussions.	l	B_K02 B_K04	T1A_K01 T1A_K02 T1A_K05 T1A_K07

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1 -2	A parallel projection. Invariants of parallel projections. Oblique axonometry, curtail angle. The sections of polyhedrons with a plane.	W_01
3-4	Rectangular axonometry. The Monge method – projecting basic elements in rectangular projections; the projections of solids.	W_01 W_02
5-6	The formats and graphical elements of drawing sheets. The types of drawing lines. The dimensions of drawing lines. Scales. Drawing tables. Technical handwriting. Folding drawing sheets. Projection methods.	W_03
7-8	Basic structures in Monge projections (the structures of adherent, parallel, and common elements).	W_02 U_01

9-10	Dimensioning views, sections, and revolved sections Graphical labelling in an architectural and construction drawing.	W_03
11-12	Basic structures in Monge projections (polygon intersections, penetrations of polyhedrons with straight lines). A polyhedron mesh (drawing particular attention to the section line and intersection points).	W_02
13-14	A drawing of timber structures. A sketch drawing. An inventory drawing.	W_01 U_02 U_01

2. Topics to be covered in the classes
3. Topics to be covered in the laboratories

No.	Topics	Module outcome code
1 -2	Revising basic structures concerning elementary geometry as regards secondary school. A parallel projection, a projection of space elements, and parallel projection invariants.	W_01 K_01
3-4	Preparing a drawing file. Discussing the range of completing tasks on sheet 1. Sheet 1 (Subject: "Constructing, drawing, and dimensioning the selected elements applied in civil engineering").	W_03 U_01
5-6	Projections of concave and convex polyhedrons. Sheet 2 (Subject: "A section of a concave polyhedron with a given plane").	W_01 W_02 K_01
7-8	The principles of preparing an architectural and construction drawing. Sheet 3 (Subject: "A projection and a section of a building"). Tutorials and controlling the progress of completing Sheet 1.	W_01 W_03 U_01 U_02 K_01 K_02
9-11	Monge projections of a point, a section, a polygon, and on the basis of models. The restitution of a point, a section, and a polygon. Monge Projections of polyhedrons on the basis of models. Adherent and parallel elements. Sheet 4 (Subject: "A detached house in three Monge projections as well as in cavalier axonometry).	W_03 U_01 K_01
12-14	Tutorials and controlling the progress of project completion.	W_01 W_03 U_01 U_02 K_01 K_02

4. Topics to be covered in the projects

Assessment methods

Module outcome code	Assessment methods <i>(Method of assessment; for module skills – reference to specific project, laboratory and similar tasks)</i>
W_01	A project
W_02	A project
W_03	A project
U_01	A project
U_02	A project
K_01	A project
K_02	A project

C. STUDENT LEARNING ACTIVITIES

ECTS summary		
	Type of learning activity	Study time/ credits
1	Contact hours: participation in lectures	15
2	Contact hours: participation in classes	
3	Contact hours: participation in laboratories	15
4	Contact hours: attendance at office hours (2-3 appointments per semester)	4
5	Contact hours: participation in project-based classes	
6	Contact hours: meetings with a project module leader	
7	Contact hours: attendance at an examination	4
8		38 <i>(total)</i>
9	Number of contact hours	
10	Number of ECTS credits for contact hours <i>(1 ECTS credit =25-30 hours of study time)</i>	1.5
11	Private study hours: background reading for lectures	5
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	2
14	Private study hours: preparation for laboratories	4
15	Private study hours: writing reports	19
16	Private study hours: preparation for a final test in laboratories	3
17	Private study hours: preparation of a project/a design specification	
18	Private study hours: preparation for an examination	4
19		
20	Number of private study hours	37 <i>(total)</i>
21	Number of ECTS credits for private study hours <i>(1 ECTS credit =25-30 hours of study time)</i>	1.5
22	Total study time	75
23	Total ECTS credits for the module <i>(1 ECTS credit =25-30 hours of study time)</i>	3
24	Number of practice-based hours <i>Total practice-based hours</i>	26
25	Number of ECTS credits for practice-based hours <i>(1 ECTS credit =25-30 hours of study time)</i>	1