

BASIC INFORMATION

LEAD LECTURER	Bölcskei Attila PhD	
LECTURERS	Bölcskei Attila PhD	
TOPIC	Introduction to representation with elevations: lines, planes, mutual position. Metric problems. Topological surfaces, notions of important elements. Construction of terrains and different fieldworks. Construction of tube systems. Development of cones and cylinders, modelling. Overview of different projecting systems.	
TASKS	4 homeworks + 1 individual task	3 credits
LECTURES (WEEKLY)	-	
WORKSHOPS (WEEKLY)	1x2 hours (90 min)	
EXAM /TESTS	0/1	

GOAL OF THE SEMESTER: Development of spatial skills using problems and methods from civil engineers' praxis.

OUTLINE FOR THE SEMESTER

WEEK	WORKSHOP	DEADLINE
1	Introduction into projection with elevations. Planes, lines and their mutual position.	
2	Incidence, intersection. Metrical problems: rotation, determine the real distance and angle.	First homework: Problems: intersection and determine metric
3	Topographic surfaces: contour lines, saddle, bergstrichs, profile and their construction.	
4	Intersection of surfaces. Surfaces of constant slope and their construction.	
5	Construction of a horizontal site on an ideal terrain.	
6	Construction of a straight roadbed on a general terrain.	Second homework: Construction of a road.
7	Construction of curved road and curves of transition.	Individual task: Complex construction of fieldworks.
8	Development of cylinders and cones. Rectification, modelling of tube systems.	
9	Construction of developable surfaces to given curves.	Third homework: Construction of a developable surface
10	The helix. Classification of helical surfaces and their application.	Fourth homework: Representation of a helical surface
11	Introduction into central projection.	
12	Projection and mapping of a sphere – chapters from cartography	
13	Test.	

TASK / EXAM

	DESCRIPTION	TO HAND IN	SCORE
FIRST TASK	Problems: intersection and determine metric.	4. week	5

SECOND TASK	Construction of a road	8. week	5
THIRD TASK	Construction of a developable surface	11. week	5
FOURTH TASK	Representation of a helical surface	12. week	5
INDIVIDUAL TASK	Complex construction of fieldworks	9. week	10
TEST	2 problems for 90 min.		30
TOTAL			60

EVALUATING

0-29 points	30-37 points	38-47 points	48-52 points	53-60 points
1 - FAILED	2 - SUFFICIENT	3 - SATISFACTORY	4 - GOOD	5 - EXCELENT