

## BASIC INFORMATIONS

LECTURER	<b>Prof. Attila BÖLCSKEI PhD</b>	
TOPIC	Chapters from the Greek tradition: divina proportione, cycloid, epi and hypocycloid, involute, cissoid, strophoid, conchoid, lemniscate, algebraic curves. Representation problems of space curves. Modelling of famous polyhedra. Modelling and representation of a helicoid and Archimedes' tubular helix. Covering: triangulated surfaces and translation surfaces in architecture D-forms, Moebius band and Klein bottle. Plucker conoid, ellipsoid, ruled surface with Kardan motion.	
LECTURE (WEEKLY)	1 x 1 hours (45' min)	6 credits
CONSULTATION (WEEKLY)	1 x 2 hours (90' min)	
EXAM /TESTS /TASK	1/1/4	

## GOAL OF THE SEMESTER:

## OUTLINE FOR THE SEMESTER

	LECTURE	CONSULTATION	DEADLINE
1	Defintion of curves. Examples.	Basic computations and constructions for planar curves.	
2	Curves of second order I.	Curves of second order II.	
3	Curves of second order III.	Curves of second order IV.	
4	Introduction of surfaces.	Surfeces of second order I.	1. task
5	Surfaces of second order II.	Surfeces of second order III.	
6	Higher order curves	Planar curves of order 3 and 4.	2. task
7	Spirals.	Application of spirals.	
8	Curves of motion	Cycloids, epi- and hypocycloids. The evolute.	
9	Other planar curves with applications	TEST	3. task
10	Set of curves. Curves in 3D	Curve constructions from given curves.	
11	Surfaces of revolution.	Ruled and developable surfaces.	
12	Translation and helical surfaces in architecture I.	Translation and helical surfaces in architecture II.	4. task
13	Other important surfaces with applications.	Surface constructions from given data.	

## TASK / EXAM

	DESCRIPTION	TO HAND IN	SCORE
1. task	Conic sections	4. week	10
2. task	Second order surface.	6. week	10
3. task	Spirals	9. week	10
4. task	Model of a surface	12. week	10
TEST	2 problems for 90 minutes: curves		40
EXAM	2 problems for 90 minutes: surfaces		40
TOTAL			<b>120</b>

## EVALUATING

0-54 points	55-74 points	75-94 points	95-104 points	105-120 points
<b>1- FAILED</b>	<b>2 - SUFFICIENT</b>	<b>3 - SATISFACTORY</b>	<b>4 - GOOD</b>	<b>5 - EXCELLENT</b>