

Course title: Modeling of Curves and Surfaces	Neptun code: GEAGT401-a
Course coordinator: Dr. Imre Juhász, DSc, dr. habil., professor emeritus	
type of lesson and number of lessons: lecture (2)	
method of evaluation: colloquium	
curriculum location of the subject: (autumn/spring semester): autumn and spring	
pre-study conditions (<i>if any</i>): -	
The task and purpose of the subject:	
The aim of the course is to acquire the basics of curve and surface modeling methods used in computer-aided geometric design (CAGD)	
Course description:	
The aim of the course is to present the curve and surface modeling methods used in computer-aided geometric design (CAGD), which are widely used in both CAD and various graphic systems. Description of curves, geometric features independent of the description. Interpolating and approximating curves, Bézier and B-spline curves. Generation, description, shape modification of rational Bézier and B-spline (NURBS) curves, description of complex shapes. Description of surfaces, interpolating and approximating surfaces, surfaces swept by a moving curve, Bézier and B-spline surfaces, rational Bézier and B-spline (NURBS) surfaces.	
Required literature:	
1. Imre Juhász, Curve and surface modeling, https://geometria.uni-miskolc.hu/files/26244/Lecture_notes.zip	
Recommended literature:	
1. Farin, G.:Curves and Surface for Computer-Aided Geometric Design, 5th edition Morgan-Kaufmann, 2002	