

Óbuda University Donát Bánki Faculty of Mechanical and Safety Engineering			Institute of Materials and Manufacturing Sciences Department of Manufacturing Technology		
Course title and code: CAD Techniques			Credits: 2		
Full-time, 2020/2021 academic year. 1. Semester					
Faculties in which the subject is taught: Donát Bánki Faculty of Mechanical and Safety Engineering					
Lecturer instructor	Dr. Czifra György		Instructor	Varga Bálint	
Prerequisites conditions (code)		BAGCA1ANND_Fundamentals of CAD-CAM modelling			
Hours per week:	Lecture: 0	Practice: 0	Laboratory: 2	Consultation: 0	
Semester closing way: (required)		é – practice mark			
Curriculum					
The objective of the course: The course discusses the subject of product development and mechanical mechanisms. Students will learn the principles and methods of surface modeling and the construction of mechanisms that are primarily important for practice. They also learn the basics of realistic visualization and animation of mechanisms. During the practice, model building tools and their basic features are studied.					
Schedule					
Educational weeks	Lecture		Exercise		
week 1			Introduction to surface modelling		
week 2			Surface modelling		
week 3			Reverse engineering		
week 4			Injection mold design		
week 5			Injection mold design		
week 6			Surface modelling a rendering		
week 7			Holiday		
week 8			T I. (Surface modelling)		
week 9			Assembly modell creation		
week 10			Introduction to the structure of the mechanisms		
week 11			Gears and toothed racks		
week 12			Rolling relationships with curves		
week 13			Animation		
week 14			T II. (Kinematics)		

Conditions of getting practice mark:

- participation in exercises - the minimum participation in exercises is 70%
- At least 50% fulfillment of each from 2 tests

Replacement:

If the student has not met the conditions for obtaining the grade, he / she will be given the opportunity to make up for it in the form of a test. The result of the test is the same as the normal test result. If the student is unable to obtain the grade, he / she may retry testing during the first 10 days of the exam period.

If the test fails, the student does not complete the subject.

Calculation practice mark:

0 – 49,99%	elégtelen (1) insufficient
50 – 59,99%	elégséges (2) sufficient
60– 69,99%	közepes (3) satisfactory
70 – 84,99%	jó (4) good
85 – 100%	jeles (5) excellent

#### **Bibliography:**

Course book:

1. Kátai L. és kol.: CAD book, Typotex Kiadó, 2012, ISBN 978-963-279-539-3
2. David C. Planchard, Marie C. Planchard: Engineering Design with Solidworks 2013, ISBN 978-1-58503-777-3, Schroff Development Corporation
3. Paolo Davim: Modern Mechanical Engineering, Springer Verlag Berlin, Heidelberg, 2014
4. <http://www.autodesk.com/products/powershape/overview>
5. [http://vigyanparijojana.weebly.com/uploads/2/4/2/5/24253861/cad\\_cam.pdf](http://vigyanparijojana.weebly.com/uploads/2/4/2/5/24253861/cad_cam.pdf)

Budapest, 07 September 2020

Lecturer instructor