

Assessment and Subject Description				
Óbuda University Kandó Kálmán Faculty of Electrical Engineering		Institute of Microelectronics and Technology		
Subject name and code: Precision mechanics, KMEFM15TED				Credits: 3
Full time, 5th semester				
Prerequisites:				
Responsible:	Dr. Lendvay Marianna PhD	Teaching Staff:	Meszlényi György	
Prerequisites:		KMEEA11TND		
Contact hours per week:	Lecture: 1	Class discussion:0	Lab. hours: 1	Tutorial: -
Assessment and evaluation:	Grade from the test during semester (60%) Laboratory reports (40%)			
Subject description				
<i>Aims:</i> Precision mechanical units are important components of mechantronical installations. The students should acquire the ability to assess precision mechanics basis, products of precision mechanics fastenings, and operating elements applied in precision mechanics.				
Topics:			Week	Lessons
1st lecture: Concept of precision mechanics, overview of precision mechanical products. Fastenings with elastic deformation (screw fastenings, key joints, bayonet catch, twist joints, press joints, grouting joints)			1.	2
Lab hours for screw fastenings			2.	2
2nd lecture: Joints with plastic deformation (riveting, flanging, plaiting joining by curling, lugged joints.). Fastenings with material			3.	2
Lab hours for fastenings with material.			4.	2
3th lecture: Operation elements of precision mechanics: springs.			5.	2
Lab hour for determination of cone angle			6.	2
4th lecture: Driving elements: shafts, bearings, edge-type conical bearing			7.	2
Lab hour for drives			8.	2
5th lecture: Driving and transforming elements: gears, gear drives, friction drives, threaded drives			9.	2
Lab hour for precision mechanical constructions			10.	2
6th lecture: Revision and preparation for the test			11.	2
Missing lab hours,			12.	2
Test about theoretical part			13.	2
Correction of fail mid-semester notes.			14.	2
Mid-semester assessment and evaluation				
<ul style="list-style-type: none"> - lectures, class meetings are mandatory. - „pass” test result of lectures materials during the semester („pass” means 50% of the maximal scores) - „pass” result of lab hours, and documentation by protocol, - midsemester note will be defined according to the test result and notes of protocols. Test result calculated in 60% - missing lab hours and fail tests can be repeated once on 12th week, - „fail” midsemester notes can be corrected on the first 10 working days of exam period 				
Recommended reference resources				
Putnoki István: Engineering design, BMF-BGK-55, Bp 2004, 87/2003				
Dr.Elinger István-Dr.Goda Tibor: : Engineering design- Theory and Practice, BMF BGK 3022, Bp,2006				
Bogyjás József: Elektromechanikus szerkezetek elemei, BMF KVK-2019, Bp 2003				
1. Dr. Petrik Olivér: Finommechanika, Műszaki Könyvkiadó, Budapest 1974				
2. Hildebrand: Feinmechanische Bauelemente, VEB Verlag Technik, Berlin				
3. Krause, W.: Konstruktionselemente der Feinmechanik, Carl Hauser Verlag, München, 1993.				