Assessment and Subject Description

Óbuda University **Kandó Kálmán Faculty of Electrical Engineering**	**Institute of Microelectronics and Technology**

Subject name and code**: Precision mechanics, KMEFM1ETND** **Credits: 2**
Full time, 5th semester 2018/19_1

Course: **Mechatronical engineering**

Responsible:	**Dr. Lendvay Marianna PhD**	Teaching Staff:	Meszlényi György

Prerequisites:

Contact hours per week:	Lecture**: 1**	Class discussion:0	Lab. hours: **1**	Tutorial: -
Assessment and evaluation:	Grade from the test during semester			

Subject description

Aims: Fine mechanical units are important components of mechatronic installations. The students should acquire the ability to assess fine mechanics basis, products of fine mechanics fastenings and operating elements applied in fine mechanics

Topics:	**Week**	**Lessons**
1st lecture: Definitions and fields of Precision Mechanics, Fastenings with elastic deformation (screw fastenings, key joints, bayonet catch, twist joints, press joints, grouting joints)	**1.**	**2**
Lab hours: measurement of geometrical parameters of threads, drawings	**2.**	**2**
2nd lecture: Joints with plastic deformation (riveting, flanging, plaiting joining by curling, lugged joints.). Fastenings with material	**3.**	**2**
Lab hours: soldering	**4.**	**2**
3th lecture: Operation elements of fine mechanics: springs.	**5.**	**2**
Lab hour for calculations of fine mechanical spring parameters	**6.**	**2**
4th lecture: Driving elements: shafts, bearings, edge-type conical bearing	**7.**	**2**
Lab hour: different methods of cone angle measurement	**8.**	**2**
5th lecture: Driving and transforming elements: gears, gear drives, friction drives, threaded drives	**9.**	**2**
Lab hour: driving elements	**10.**	**2**
Test about theoretical part	**11.**	
Lab hour: complex constructions	**12.**	**2**
Correction of fail mid-semester notes	**13.**	**2**
Missing lab hours	**14.**	**2**

Mid-semester assessment and evaluation

- 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,
- Mid-semester note will be defined according to the test result and notes of protocols. Test result calculated in 60%
- fail tests can be repeated once on 13th, and missing lab hours on 14th
- „fail" mid-semester notes can be corrected on the first 10 working days of exam period

Suggested material

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

Bugyjás 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.: Kostruktionselemente der Feinmechanik, Carl Hauser Verlag, München, 1993.

2018. augusztus 28. Dr. Lendvay Marianna (tantárgyfelelős)