Assessment and Subject Description

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

Subject name and code**:Fine mechanics, KMEFM15TEC** **Credits: 3**
Full time, 5th semester

Prerequisites:

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

Prerequisites: **KMEEA11TNC**

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 mechantronical 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: Concept of fine mechanics, overview of fine 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 fine mechanics: springs.	**5.**	**2**
Lab hour for determination of fine mechanical springs	**6.**	**2**
4th lecture: Driving elements: shafts, bearings, edge-type conical bearing	**7.**	**2**
Lab hour for determination of cone angle	**8.**	**2**
5th lecture: Driving and transforming elements: gears, gear drives, friction drives, threaded drives	**9.**	**2**
Lab hours for drives	**10.**	**2**
6th lecture: Revision and preparations 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

- 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 14th,
- „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

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.