

Tárgytematika / Course Description**Engine, Motor and Vehicle testing**

AJNM_BMTA037

Tárgyfelelős neve /**Teacher's name:** dr. Tóth-Nagy Csaba**Félév / Semester:** 2018/19/1**Beszámolási forma /****Assesment:** Vizsga**Tárgy heti óraszám /****Teaching hours(week):** 2/0/2**Tárgy féléves óraszám /****Teaching hours(sem.):** 0/0/0**OKTATÁS CÉLJA / AIM OF THE COURSE**

Students will get acquainted with the measuring methods and principles of vehicle, electric motors and internal combustion engines. Students will learn the featuring variables of these machines.

TANTÁRGY TARTALMA / DESCRIPTION

- 1.week: Vehicle strength tests (stress analysis, strain tests, fatigue, crash tests)
- 2.week: Vehicle acoustical tests (external and internal noise measurement, acoustic measuring rooms, vibration measurement)
- 3.week: Vehicle thermal and flow tests (temperature measurement procedures, flow measurement methods, wind tunnel tests)
- 4.week: Vehicle tests (prototype tests, standard tests, brand and concern tests, consumption and emissions tests)
- 5.week: Introduction to measurements on internal combustion engines. Characteristics of internal combustion engines.
- 6.week: Hottest test stands. Function, construction, equipment, conditioning systems.
- 7.week: Cold test in engine assembly, leak test and end-function test.
- 8.week: "Measuring of mechanical losses, measuring cylinder pressure. Optical measuring methods for the investigation of internal motor processes. "
- 9.week: Construction and operation of rotating electric machines.
- 10.week: Error sources of rotating electric machines. Electric machines overheating, noise and vibration.
- 11.week: Basics of measuring electric machines. Overview of basic electric quantities.
- 12.week: Construction and operation of electric machine test benches. Loads of these test benches.
- 13-14.week: Summary

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

exam, semester project, labor

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL**Kötelező irodalom:**

Handouts

Ajánlott irodalom:

Everything on the internet
