

Tárgytematika / Course Description

Engine, Motor and Vehicle testing

AJNM_BMTA037

Tárgyfelelős neve /

Teacher's name: dr. Tóth-Nagy Csaba

Félév / Semester: 2017/18/1

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: Introduction to the measurements of electric machines and drives
- 10.week: Measurements of electrical machines using test bench. Operation and structures of test benches. Applicability of the commonly used load machines in measurements.
- 11.week: Fault detection and diagnosis methods in rotating machinery.
- 12.week: Parameter identification of DC machines.
- 13.week: Parameter identification of AC machines.
- 14.week: Summary

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

exam, semester project, labor

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Kötelező irodalom:

Handouts

Ajánlott irodalom:

Everything on the internet
