

Tárgytematika / Course Description

Internal Combustion Engines 2.

AJNB_BMTA004

Tárgyfelelős neve /

Teacher's name: dr. Knaup Jan Christopher

Félév / Semester: 2022/23/2

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 3/0/1

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

The aim of this course is to introduce the structure of the valvetrain, its functions and mechanisms in order to give a better understanding of the gas exchange processes of internal combustion engines. The course will follow up the topics introduced previously, expand them with details on up-to-date developments, and discuss all the necessary auxiliary units of internal combustion engines. The content also includes overhaul technologies as well as the introduction of engine applications outside of the automotive industry. The semester includes four laboratory workshops as well.

TANTÁRGY TARTALMA / DESCRIPTION

1. Week: Introduction, Gas exchange
2. Week: Valvetrain mechanisms
3. Week: Parts of the valvetrain
4. Week: Parts of the valvetrain
5. Week: Variable valvetrains
6. Week: Variable valvetrains
7. Week: Turbocharging
8. Week: Supercharging
9. Week: Cooling
10. Week: Lubrication
11. Week: Oil Types
12. Week: Test
13. Week: Engine Overhaul
14. Week: Repeated test / Gas Turbines

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Signature requirement: Passing the test with at least 50%

Students not participating or failing the test can retry on the repeated test.

Exam grades:

0 % - 49% - Failed (1)
50 % - 62% - Pass (2)
63 % - 75% - Satisfactory (3)
76 % - 88% - Good (4)
89 % - - Excellent (5)

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

- Internal Combustion Engine Handbook: Basics, Components, Systems, and Perspectives by Richard Van Basshuysen (Editor), Fred Schafer (Editor), Fred Schaefer, 2004, ISBN 978-0-7680-8024-7
- László Paulovics: Timing of internal combustion engines (Electronic textbook)
- Internal Combustion Engine Fundamentals, John Heywood, 2011, ISBN: 9781260116106