

## Tárgytematika / Course Description Internal Combustion Engines II.

AJNM\_BMTA020

**Tárgyfelelős neve /**

**Teacher's name:** dr. Tóth-Nagy Csaba

**Félév / Semester:** 2024/25/2

**Beszámolási forma /**

**Assesment:** Vizsga

**Tárgy heti óraszám /**

**Teaching hours(week):** 2/0/2

**Tárgy féléves óraszám /**

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

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### OKTATÁS CÉLJA / AIM OF THE COURSE

The aim of this course is to expose the relationships between mechanical components of internal combustion engines and their functionality. As an integrating subject, it combines and requires mathematical, thermodynamic and mechanical engineering skills. The course deals with the core components of internal combustion engines and places them in the drivetrain. Each subcomponent will be discussed in detail from various aspects and analyzed with a systemic viewpoint. Each student will have to submit an article review as a semester work.

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### TANTÁRGY TARTALMA / DESCRIPTION

1. Week: Introduction
2. Week: Internal combustion engine classification
3. Week: Parts of the cranktrain
4. Week: Kinematics of the cranktrain
5. Week: Pistons
6. Week: Connecting rod
7. Week: 1st test
8. Week: Crankshaft
9. Week: Engine bearings
10. Week: Crankcase
11. Week: Cylinder head
12. Week: Balancing
13. Week: 2nd test
14. Week: Repeated test

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### SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

In order to receive the signature class attendance is mandatory, participation and submission of requested tasks on laboratory workshops are also mandatory. To receive the signature both tests have to be at least 50%.

0% - 49% - Failed (1)

50% - 62% - Pass (2)

63% - 75% - Satisfactory (3)

76% - 88% - Good (4)

89% - 100% - Excellent (5)

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### **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  
Internal Combustion Engine Fundamentals, John Heywood, 2011, ISBN: 9781260116106

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### **AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL**