

## Tárgytematika / Course Description Machine Design and Tribology

AJNB\_BMTA049

Tárgyfelelős neve /

Teacher's name: dr. Hanula Barna

Félév / Semester: 2023/24/2

Beszámolási forma /

Assesment: Folyamatos számonkérés

Tárgy heti óraszám /

Teaching hours(week): 2/2/3

Tárgy féléves óraszám /

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

### OKTATÁS CÉLJA / AIM OF THE COURSE

The aim of the course is to learn how the bearings, seals, and gear drives work. And they can make professional choices and dimensioning during machine design. In addition, students will be learning the basics of tribology, and they are able to plan consciously that takes these aspects.

### TANTÁRGY TARTALMA / DESCRIPTION

Vehicle Transmissions: 4 x 45 minutes

Bearings: 4 x 45 minutes

Seals: 4 x 45 minutes

Gear drives: 8 x 45 minutes

Tribology: friction, wear, lubricants, investigation technologies: 12 x 45 minutes

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

Students will work in teams of 3 to solve a hands-on project task. Deliverable includes a short PPT presentation.

The students have to absolve an exam about the knowledge they gained during the semester

Evaluation:

Item	Weight
Project	50%
Exam	50%
Total	100%

Note: a minimum of 40% of the maximum possible points have to be reached in each evaluation discipline in order to pass this subject successfully. Failure to reach this minimum limit in any of the evaluation disciplines will lead to a FAIL grade for the subject.

Grading:

0-50%: 1.

51-70%: 2.

71-80%: 3.

81-90%: 4.

91-100%: 5.

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### **KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL**

- Awadhani L.V., Utpat L.S., Deulgaonkar V.R.: Design of machine elements II, Maharashtra India
  - Bhandari V.: "Design of Machine Elements", 4th Edition, New Delhi, India.
  - P. L. Mendez, M. Nosonovsky, M. R. Lovell, S. P. Ingole, S. V. Kailas: Tribology for Scientists and Engineers, New York.
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### **AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL**