

## Tárgytematika / Course Description Mechanics of Structures 1

EKNB\_SETA010

Tárgyfelelős neve /

Teacher's name: dr. Movahedi Rad Majid

Félév / Semester: 2023/24/1

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/3/0

Tárgy féléves óraszám /

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

### OKTATÁS CÉLJA / AIM OF THE COURSE

The primary purpose of the study of mechanics is to develop the capacity to predict the effects of force and motion while carrying out the creative design functions of engineering. This capacity requires more than a mere knowledge of the physical and mathematical principle of mechanics; also required is the ability to visualize physical configurations in terms of real materials, actual constraints, and the practical limitations which govern the behaviour of mechanics and structures. One of the primary objectives in this course is to help the student develop this ability to visualize, which is so vital to problem formulation.

### TANTÁRGY TARTALMA / DESCRIPTION

Forces, force systems, substitution and balance problems. Reactions on simple structures. Reactions and connecting forces in compound structures. Solution methods of trusses. Trusses loaded on bar elements. Internal forces in cross sections. Diagrams of internal forces on straight-, broken-lined and complex frameworks. Internal force distributions under moving loads. Maximum internal force diagrams. Spatial forces, structures.

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

Task

Tests score between 0 and 100 points,

Final exam: written exam score between 0 and 150 points,

Minimum mid semester requirement to participate at the final exam

The semester score must be at least 100 out of 200. Semester score are calculated by the following formula:

Semester score= sum of two tests

Final Mark:

The final mark based on the total score.

Total score calculated by the following formula:

Total score= sum of two tests + written exam

1 for 101-174 points (fail)

2 for 175-210 points

3 for 211-250 points

4 for 251-280 points

5 for 281-350 points

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

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

