Tárgytematika / Course Description

Noise and Vibration Protection

NGM_KE101_1

Tárgyfelelős neve / Teacher's name: dr. Gyulai István

Félév / Semester: 2020/21/1

Beszámolási forma / Assesment: Vizsga

Tárgy heti óraszáma / Teaching hours(week): 2/1/0

Tárgy féléves óraszáma / Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

Goals: The subject deals with the noise and vibration issues in the built environment. The goal of the subject is that the students should be able to understand the basics of the technical acoustics, can perform simple noise- and vibration measurements and understand and apply the main legal and technical problems connected to the planning of infrastructures.

TANTÁRGY TARTALMA / DESCRIPTION

Topics:

1. hét Basics of technical acoustics. Noise- and vibration levels.
2. hét Measuring noise and vibration. Noise level meters, measuring systems
3. hét Free field noise propagation.
4. hét Noise propagation in rooms.
5. hét Building and room acoustics.
6. hét Noise level limiting values inside of buildings and in the environment.
7. hét Mid-term teszt.
8. hét Traffic noise: Road and railway noise and its propagation. Possibilities for reduction.
9. hét Traffic noise: Railway noise and its propagation. Possibilities for reduction.
10. hét Noise from the point of view of town planning: noise maps, calculation methods, quiet areas, areas for noise reduction.
11. hét Vibration effects and regulation on human being and on buildings.
12. hét Vibration propagation in soil. Methods for investigation.
13. hét Vibration caused by road and railway traffic. Possibilities for reduction.
14. hét End-off term teszt

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

Two tests during the semester. Oral and written exam.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

- Lecture notes

- Randall F. Barron (2002): Industrial Noise Control and Acoustics. - CRC Press