

I. Personal and study details

Student's name: **Van Der Bauwhede Wolf** Personal ID number: **512080**
Faculty / Institute: **Faculty of Mechanical Engineering**
Department / Institute: **Department of Mechanics, Biomechanics and Mechatronics**
Study program:

II. Master's thesis details

Master's thesis title in English:

Advanced acoustic barriers

Master's thesis title in Czech:

Pokročilá akustická přepážka

Guidelines:

1. Introduce yourself into the concept of acoustic barriers according to [1]
2. Get acquainted with 3D plastic printing on Prusa 3D printers
3. Get acquainted with the measurement of acoustic transmissibility using a Kundt tube
4. Create CAD models of various variants of acoustic barriers according to [1], including one reference formed by a planar homogeneous plate.
5. Create CAM models of variants from their CAD models and print physical samples using them
6. Carry out and evaluate the measurement of acoustic transmissibility of the generated samples using a Kundt tube

Bibliography / sources:

- [1] Valasek, M., Vampola, T.: Acoustic barrier, Utility pattern, 35819, UPV, Prague 2022
- [2] 3D printing Handbook, ver. 3.11, Prusa Research Ltd., Prague 2019
- [3] Seybert, A.F. and Ross, D.F.: Experimental Determination of Acoustic Properties Using a Two-Microphone Random-Excitation Technique, J. Acoust.Soc. Am., Vol. 68, No. 3, 1980, pp. 907-921.

Name and workplace of master's thesis supervisor:

prof. Ing. Michael Valášek, DrSc. Division of mechanics and mechatronics FME

Name and workplace of second master's thesis supervisor or consultant:

Date of master's thesis assignment: **07.06.2022** Deadline for master's thesis submission: _____

Assignment valid until: _____

prof. Ing. Michael Valášek, DrSc.
Supervisor's signature

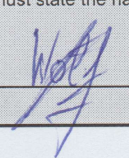
doc. Ing. Miroslav Španiel, CSc.
Head of department's signature

doc. Ing. Miroslav Španiel, CSc.
Dean's signature

III. Assignment receipt

The student acknowledges that the master's thesis is an individual work. The student must produce his thesis without the assistance of others, with the exception of provided consultations. Within the master's thesis, the author must state the names of consultants and include a list of references.

Date of assignment receipt



Student's signature