Budapest University of Technology and Economics
Faculty of Mechanical Engineering
Department of Fluid Mechanics
http://www.ara.bme.hu/

FINAL PROJECT ASSIGNMENT

Publicly Available

Identification			
Name: **Luo Yifan**			ID: **73197925115**
Code of the Curriculum: 2NAAG0		Specialisation: 2NAAG0-PE	Document ref. number: GEÁT:2022-1:2NAAG0:HNUT8M
Curriculum: Bachelor of Science Degree Program in Mechanical Engineering			
Final Project issued by: Department of Fluid Mechanics		Final exam organised by: Department of Fluid Mechanics	
Supervisor: Dr. Joshua Patrick Davidson (71569852589), research fellow			

Project Description	
Title	**Investigation of vortex-induced vibrations using OpenFOAM** Örvények által keltett rezgések vizsgálata OpenFOAM szimulációs környezetben
Details	The project will involve the following tasks 1. Surveying and analysing relevant resources of technical literature 2. Perform 2D simulation of vortex shedding from a stationary object 3. Enable the object to move and perform simulation of vortex-induced vibration a. Implement a spring force onto the object so that it will vibrate b. Investigate the range of input conditions and object natural frequencies for which vortex-induced vibration will occur 4. Examine methods to mitigate the occurrence of vortex-induced vibration on the object 5. Summarize the work in the required document format of the BSc Thesis
Advisor	Advisor's Affiliation: Advisor: —

Final Exam			
1st subject (group)	2nd subject (group)	3rd subject (group)	4th subject (group)
ZVEGEVGAG4X Volumetric Pumps and Compressor	**ZVEGEVGAGFF** Fluid Flow Systems	**ZVEGEENAG71** Energy Processes and Equipments	

Authentication		
Handed out: 6 September 2021		Deadline: 10 December 2021
Compiled by: Dr. Joshua Patrick Davidson (71569852589) Supervisor	Verified by: *Dr. János Vad* (signed) Head of Department	Approved by: *Dr. Gábor Györke* (signed) Vice-Dean
The undersigned declares that all prerequisites of the Final Project have been fully accomplished. Otherwise, the present assignment for the Final Project is to be considered invalid. …….. *Luo Yifan*		