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: **Zuba Péter**			ID: **74400602488**
Code of the Curriculum: 2N-MW0		Specialisation: 2N-MW0-FM	Document ref. number: GEÁT:2023-1:2N-MW0:F8K9KC
Curriculum: Gépészeti modellezés mesterképzési szak			
Final Project issued by: Department of Fluid Mechanics		Final exam organised by: Department of Fluid Mechanics	
Supervisor: Dr. Benedek Tamás (76511246251), assistant professor			

Project Description	
Title	**Application of vortex detection method in turbomachinery simulations** Örvénydetektáló módszer alkalmazása forgógép-szimulációkban
Details	Assignments of the MSc Thesis Project A 1. Conduct a literature review regarding the topic! 2. Run 2D simulations with different inlet parameters! 3. Use a vortex detection algorithm obtained from the literature! 4. Formulate qualitative and/or quantitative statements on the motion of shed vortices! Assignments of the MSc Thesis Project B 1. Implement the previously used vortex detection method for 3D applications! 2. Verificate the implementation of the method in a 3D case study simulation! 3. Investigate the tip leakage vortex in an axial flow fan's simulation result using the implemented vortex detection method! 4. Summarize the work in the required document format of the MSc Thesis!
Advisor	Advisor's Affiliation: Dept. Fluid Mechanics, BME 1111 Budapest, Bertalan Lajos 4-6. Advisor: Bálint Lendvai, PhD student

Final Exam			
1st subject (group)	2nd subject (group)	3rd subject (group)	4th subject (group)
ZVEGEÁTNW02 Computational Fluid Dynamics	**ZVEGEÁTNW03** Fluid Mechanics Measurements	**ZVEGEÁTNW08** Building and Environmental Aerodynamics	**ZVEGEÁTNW19** Vehicle Aerodynamics

Authentication		
Handed out: 5 September 2022		Deadline: 9 December 2022
Compiled by: Dr. Benedek Tamás (76511246251) 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. …….. *Zuba Péter*		