

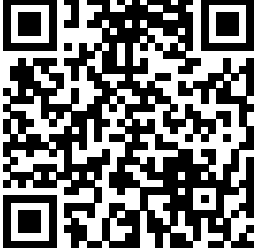
FINAL PROJECT ASSIGNMENT

Publicly Available

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

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| 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, 1111 Budapest, Bertalan L. 4-6. Advisor: Bálint LENDVAI, PhD student |

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

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| Authentication | Handed out: 27 February 2023 | | Deadline: 2 June 2023 | | | |
| | 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 | | |  | | |