Budapest University of Technology and Economics

Faculty of Mechanical Engineering

Department of Fluid Mechanics

http://www.ara.bme.hu/

F I N A L   P R O J E C T   A S S I G N M E N T

Publicly Available

<table>
<tr><td rowspan="6">Identification</td><td colspan="2">Name: Ahmad Saif</td><td colspan="2">ID: 73763235326</td></tr>
<tr><td colspan="2">Code of the Curriculum: 2NAMW0</td><td>Specialisation:</td><td>Document ref. number:</td></tr>
<tr><td colspan="2">Curriculum: Master Program in Mechanical Engineering Modelling</td><td>2NAMW0-FM</td><td>GEÁT:2024-1:2NAMW0:PCGT74</td></tr>
<tr><td colspan="2">Final Project issued by:</td><td colspan="2">Final exam organised by:</td></tr>
<tr><td colspan="2">Department of Fluid Mechanics</td><td colspan="2">Department of Fluid Mechanics</td></tr>
<tr><td colspan="4">Supervisor: Dr. Balogh Miklós (71427777405), assistant professor</td></tr>
</table>

Project Description	Title	**Verification and Validation of a Turbulence Models for Wind Engineering Purposes in OpenFOAM Considering Atmospheric Stratification** Turbulencia modellek validációja és verifikációja szélmérnöki célokra a légköri rétegződés figyelembevételével
	Details	1) Literature review on atmospheric turbulence modelling 2) Familiarization with atmospheric turbulence models available in OpenFOAM 3) Selecting/Collecting data for verification and validation (Wind profile data from LIDAR and Ultra-Sonic ane-mometers) 4) Preparing data for model validation 5) Create and run the selected validation cases 6) Summarise the work in the required document format of the MSc Thesis
	Advisor	Advisor's Affiliation: Advisor: --

<table>
<tr><td rowspan="3">Final Exam</td><td>1st subject (group)</td><td>2nd subject (group)</td><td>3rd subject (group)</td><td>4th subject (group)</td></tr>
<tr><td>ZVEGEÁTNW02
 Computational Fluid Dynamics</td><td>ZVEGEÁTNW03
 Fluid Mechanics Measurements</td><td>ZVEGEÁTNW08
 Building and Environmental Aerodynamics</td><td>ZVEGEÁTNW11
 Open Source Computational Fluid Dynamics</td></tr>
</table>

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ZVEGEÁTNW02 Computational Fluid Dynamics	**ZVEGEÁTNW03** Fluid Mechanics Measurements	**ZVEGEÁTNW08** Building and Environmental Aerodynamics	**ZVEGEÁTNW11** Open Source Computational Fluid Dynamics

<table>
<tr><td rowspan="4">Authentication</td><td colspan="2">Handed out: 4 September 2023</td><td colspan="2">Deadline: 8 December 2023</td></tr>
<tr><td colspan="2">Compiled by:
 Dr. Balogh Miklós (71427777405)
 Supervisor</td><td>Verified by:
 Dr. János Vad (signed)
 Head of Department</td><td>Approved by:
 Dr. Gábor Györke (signed)
 Vice-Dean</td></tr>
<tr><td colspan="2">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.

 ……………………………………..
 Ahmad Saif</td><td colspan="2"></td></tr>
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