



# FINAL PROJECT ASSIGNMENT

**Publicly Available**

<b>Identification</b>	Name: <b>Liu Jianxin</b>		ID: <b>73352281820</b>	
	Code of the Curriculum: <b>2NAMW0</b>		Specialisation:	Document ref. number:
	Curriculum: <b>Master Program in Mechanical Engineering Modelling</b>		<b>2NAMW0-FM</b>	<b>GEÁT:2020-1:2NAMW0:R63D2Y</b>
	Final Project issued by: <b>Department of Fluid Mechanics</b>		Final exam organised by: <b>Department of Fluid Mechanics</b>	
	Supervisor: <b>Dr. Joshua Patrick Davidson (71569852589), tudományos munkatárs</b>			

<b>Project Description</b>	<b>Titée</b>	<b>Modelling of a Wave Flume in ANSYS Fluent</b> Hullámcsatorna modellezése ANSYS Fluent szimulációs környezetben
	<b>Details</b>	<ol style="list-style-type: none"> <li>1. Literature survey - surveying and analysing relevant resources of technical literature</li> <li>2. Geometry and mesh generation               <ol style="list-style-type: none"> <li>a. Replicate the geometry of the wave flume from the experiment in Plymouth University; b. Create a mesh for the wave flume</li> <li>c. Perform a mesh convergence study</li> </ol> </li> <li>3. Moving wall wave maker               <ol style="list-style-type: none"> <li>a. Replicate the motion of the moving wall wave maker measured from the physical experiment</li> </ol> </li> <li>4. Wave probes               <ol style="list-style-type: none"> <li>a. Create wave probes located at the same positions as in the physical experiments; b. Measure and record the free surface elevation in the simulations</li> </ol> </li> <li>5. Simulations               <ol style="list-style-type: none"> <li>a. Single frequency waves; b. Multi-frequency focussed waves;</li> </ol> </li> <li>6. Comparison and validation: Compare the results from the simulation against the values recorded in the experiments</li> <li>7. Reporting: Summarise the work in the required document format of the MSc Thesis</li> </ol>
	<b>Advisor</b>	Advisor's Affiliation:

<b>Final Exam</b>	1 <sup>st</sup> subject (group)	2 <sup>nd</sup> subject (group)	3 <sup>rd</sup> subject (group)	4 <sup>th</sup> subject (group)
	<b>ZVEGEÁTMW02</b> Computational Fluid Dynamics	<b>ZVEGEÁTMW03</b> Flow Measurements	<b>ZVEGEÁTMW08</b> Building Aerodynamics	<b>ZVEGEVGMW06</b> Hemodynamics

<b>Authentication</b>	Handed out: <b>15 September 2020</b>		Deadline: <b>11 December 2020</b>		
	Compiled by: <b>Dr. Joshua Patrick Davidson (71569852589)</b> Supervisor		Verified by: <b>Dr. János Vad (signed)</b> Head of Department		Approved by: <b>Dr. Péter Bihari (signed)</b> 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.  ..... <i>Liu Jianxin</i>				