ASSIGNMENT

MSc THESIS (FINAL PROJECT BMEGEÁTMWD2)

Title:	**One and Two-way FSI Investigations of an Offshore Exhaust Gas System**
Author's name (code):	**András ZSÁKAI (GUW6TY)**
Curriculum:	MSc in Mechanical Engineering Modelling / spec. Fluid Mechanics
Curriculum's code:	2N-MW0-FM
Supervisor's name, title:	Dr. Gergely KRISTÓF, associate professor
Affiliation, address:	Department of Fluid Mechanics / BME H-1111 Budapest, Bertalan L. 4-6.
Advisor's name, title:	Norbert PÉTER, CFD engineer
Affiliation, address:	CFD.HU Ltd. H-1025, Budapest, Mandula street 35.
Handed out / Deadline:	**8th of September 2014. / 12th of December 2014.**
Curriculum subjects (code), credits:	1. Analytical Mechanics (BMEGEMMMW01), 5 cr 2. Continuum Mechanics (BMEGEMMMW03), 5 cr 3. Elasticity and plasticity (BMEGEMMMW05), 3 cr 4. Experimental methods in solid mechanics (BMEGEMMMW10), 3 cr
Title of the Major Project (BMEGEÁTMWD1):	**One and Two-way FSI Investigations of an Offshore Exhaust Gas System**
Description / refinement of the Major Project (BMEGEÁTMWD1):	1. Literature survey about offshore exhaust systems and Fluid-Structure Interaction (FSI) methods. 2. Determining the proper boundary conditions for modelling the structure. 3. Geometrical modelling of the exhaust system in ANSYS by taking into account the possible boundary conditions. 4. Definition of inlet velocity profile and fluctuations on the basis of relevant standards.
Description of the Final Project (BMEGEÁTMWD2):	1. Sensitivity analysis of critical states of the exhaust system with the help of one-way and two-way FSI. 2. Investigation of flutter and vortex shedding. 3. Comparing the FSI results with standards. Analysing of the reliability of one-way and two-way FSI calculations. 4. Summarizing the results in the form of master thesis with respect to the formal requirements.

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Budapest, 8th of September 2014.

(L.S.) …….. supervisor …….. Dr. János VAD, full professor Head of Department

Approved by:
Budapest, 8th of September 2014.

(L.S.) ……. Dr. Tibor CZIGÁNY Dean of Faculty

Received by:
Budapest, 8th of September 2014.

The undersigned declares that all prerequisite subjects of the Final Project have been fully accomplished. Otherwise, the present assignment for the MSc Thesis and the subject's registration for BMEGEÁTMWD2 are considered to be invalid.

……. student

Supervisor's declaration of acceptance:	The submitted MSc Thesis fulfils all requirements of the Department of Fluid Mechanics, Budapest University of Technology and Economics. The MSc Thesis is accepted for review process and public defence.
Supervisor's proposal for final grade of the MSc Thesis:	The proposed final grade* of the MSc Thesis: ……..... * Please, select one: excellent (5), good (4), medium (3), acceptable (2), fail (1)
Date:	Budapest, 12th of December 2014.
Name / Signature:	……. supervisor

Reviewer's proposal for final grade of the MSc Thesis:	The proposed final grade* of the MSc Thesis: ……..... * Please, select one: excellent (5), good (4), medium (3), acceptable (2), fail (1)
Date:	
Name / Signature:	……. reviewer