

## ASSIGNMENT

### MSc MAJOR PROJECT (BMEGEÁTMWD1)

Title: **Numerical modelling and development of slit finned tube heat exchangers**

Author's name (code): **Áron BAJCSY (JPX427)**  
Curriculum : MSc in Mechanical Engineering Modelling / Fluid Mechanics

Supervisor's name, title: **Máté Márton LOHÁSZ, Ph.D.**  
Affiliation: **GEA Heat Exchangers | GEA EGI Contracting/Engineering Co. Ltd.**

Supervisor's name, title: **Miklós BALOGH, MSc, departmental fellow**  
Affiliation: **Department of Fluid Mechanics / BME**

Description / tasks of the project:

1. Task: Literature survey on plane and finned round- tube heat exchangers, comparing to the ones produced by GEA-EGI
2. Task: Simulation the flow in a one tube finned round tube setup using OpenFOAM, including mesh and numeric dependency study
3. Task: Simulation of the same problem using isothermal solid boundaries
4. Task: Conjugate heat transfer simulation with realistic wall thickness. Mesh dependency study.
5. Task: Investigation of the slit finned configuration.
6. Task: Comparison to literature.

Handed out / Deadline: **6<sup>th</sup> of February 2012. / 14<sup>th</sup> of May 2012.**  
Budapest, 6<sup>th</sup> of February 2012.

(L.S.)

Received by:  
Budapest, 6<sup>th</sup> of February 2012.

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Dr. János VAD, associate professor  
Head of Department

The undersigned declares that all prerequisite subjects of the Major Project have been fully accomplished. Otherwise, the present assignment for the Major Project is to be considered invalid.

.....  
student



<b>Supervisor's declaration of acceptance:</b>	The submitted Project Report fulfils all requirements of the Department of Fluid Mechanics, Budapest University of Technology and Economics.
<b>Supervisor's proposal for final grade of the thesis:</b>	<div style="border: 1px solid black; padding: 5px; text-align: center;">The proposed final grade* of the Project Report:  .....</div> <p>* Please, select one: excellent (5), good (4), medium (3), acceptable (2), fail (1)</p>
<b>Date:</b>	Budapest, 14th of May, 2012.
<b>Name / Signature:</b>	..... Máté Márton LOHÁSZ, Ph.D. supervisor

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