

2009.01.05.

Budapesti Műszaki és Gazdaságtudományi Egyetem  
Gépészmérnöki Kar  
Áramlástan Tanszék  
Mechanical Engineering Modelling (MSc)  
Fluid Mechanics major (MSc)

Budapest University of Technology and Economics  
Faculty of Mechanical Engineering  
Department of Fluid Mechanics  
Mechanical Engineering Modelling (MSc)  
Fluid Mechanics major (MSc)

## Major Project (Diplomatervezés 1.)

I.	<i>Code (kód)</i>	<i>Semester (szemeszter)</i>	<i>Requirements (követelmények)</i>	<i>Credit (kredit)</i>	<i>Language (nyelv)</i>
	BMEGEÁTMWD1	3.	lect./sem./lab. (exam / pract. / signat.) 0/0/11 (s)	14	English

### 2. Responsible person and Department (Tantárgyfelelős személy és Tanszék):

<i>Name (Név):</i>	<i>Status (beosztás):</i>	<i>Department (Tanszék):</i>
Dr. János VAD	associate professor	Dept. Fluid Mechanics

### 3. Lecturer (A tantárgy előadója):

<i>Name (Név):</i>	<i>Status (beosztás):</i>	<i>Department (Tanszék):</i>
-	-	Dept. Fluid Mechanics

### 4. Thematic background of the subject (A tantárgy az alábbi témakörök ismeretére épít):

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### 5. Compulsory / suggested pre-requisites (Kötelező/ajánlott előtanulmányi rend):

	<i>Subject name (tárgynév)</i>	<i>Code (tárgykód)</i>
Compulsory pre-requisites:	Differential Equations and Numerical Methods Laser Physics Analytical Mechanics Advanced Fluid Mechanics Advanced Thermodynamics Electronics Advanced Control and Informatics	BMETE90MX46 BMETE12MX00 BMEGEMMMW01 BMEGEÁTMW01 BMEGEENMWAT BMEVIAUM001 BMEGEMIMW01
	Computational Fluid Mechanics Flow Measurements	BMEGEÁTMW02 BMEGEÁTMW03
Suggested pre-requisites:	-	-

### 6. Main objectives of the subject (A tantárgy célkitűzései):

The aim of the course is to develop and enhance the capability for complex problem solving of the students under advisory management of their project leader and advisors. Each student's project is guided by the project leader and depending on the problem -if applicable- by advisor(s). They form the so-called evaluation team.

### 7. Detailed thematic description of the subject (A tantárgy részletes tematikája):

Several experimental and/or numerical (CFD) major project proposals will be announced by the project leaders on the registration week or before.

The major project proposals are defined as being complex problems for the 3<sup>rd</sup> semester and also can be continued in course of the Final Project (BMEGEÁTMWD2) in the 4<sup>th</sup> semester, hence resulting in the Master Thesis of the student.

### 8. Mode of education of the subject (A tantárgy oktatásának módja):

In course of the Major Project one single student or group of max. 2 students will work on one selected challenging problem of fluid mechanics.

### 9. Requirements (Követelmények):

1<sup>st</sup> evaluation team meeting: on the 4<sup>th</sup> week: 1<sup>st</sup> project presentation by the student  
2<sup>nd</sup> evaluation team meeting: on the 8<sup>th</sup> week: 2<sup>nd</sup> project presentation by the student  
3<sup>rd</sup> evaluation team meeting: on the 13<sup>th</sup> week: 3<sup>rd</sup> major project presentation by the student  
On the 14<sup>th</sup> week: submission of the major Project Report in printed and electronic (CD/DVD) format.  
Evaluation team members assess the students work, presentations & report.  
Signature is given when the students work passes the minimum 40%, i.e. (2) “acceptable” level, as a given informative final grade.

### 10. Consulting opportunities (Konzultációs lehetőségek):

Project leader / advisors / evaluation team members are available in weekly consulting hours.

### 11. Reference literature (Jegyzet, tankönyv, felhasználható irodalom):

– Website of the subject: <http://www.ara.bme.hu/oktatas/tantargy/NEPTUN/BMEGEATMWD1>

Preliminary literature survey is essential part of the project start, but reference literature will be provided by the project leader / advisors, too.

### 12. Home study required to pass the subject (A tantárgy elvégzéséhez szükséges tanulmányi munka):

11 contact hours / week, + home study 11 hours / week

### 13. The data sheet and the requirements are prepared by (A tantárgy tematikáját kidolgozta):

Budapest, 5<sup>th</sup> of January 2009

<i>Name (név):</i>	<i>Status (beosztás):</i>	<i>Department (Tanszék):</i>
Jenő Miklós SUDA	assistant professor	Dept. Fluid Mechanics