



1. Subject name	Ship hydrodynamics				
2. Subject name in Hungarian	Hajó-hidrodinamikai számítások				
3. Code	BMEKOVVM626	4. Evaluation type	mid-term grade	5. Credits	4
6. Weekly contact hours	1 (4) Lecture	1 (5) Practice	1 (5) Lab		
7. Curriculum	Vehicle Engineering MSc (J)	8. Role	Specialization (sp) at Vehicle Engineering MSc (J)		
9. Working hours for fulfilling the requirements of the subject					120
Contact hours	42	Preparation for seminars	13	Homework	23
Reading written materials	42	Midterm preparation	0	Exam preparation	0
10. Department	Department of Aeronautics and Naval Architectures				
11. Responsible lecturer	Dr. Hargitai L. Csaba				
12. Lecturers	Dr. Simongáti Győző, Dr. Hargitai L. Csaba				
13. Prerequisites					
14. Description of lectures					
Introduction of numerical and analytical calculation methods for determining of hull resistance, wave, speed and pressure field around the hull. Basics of ship specific numerical fluid dynamics calculations, international recommendations for calculation parameters and methods. The method of propeller design and defining propeller open water characteristics.					
15. Description of practices					
In the exercises, the students practice the ship hydrodynamic calculations.					
16. Description of laboratory practices					
In laboratory practice, students are trained to determine ship resistance and rudder forces using computer programs.					
17. Learning outcomes					
A. Knowledge					
<ul style="list-style-type: none"> Knows the basics of numerical and analytical flow calculation techniques to determine hull resistance, waveform, and vessel velocity and pressure field. He/She is familiar with basics of ship specific numerical fluid dynamics calculations, international recommendations for calculation parameters and methods. He/She knows method of propeller design and defining propeller open water characteristics. 					
B. Skills					
<ul style="list-style-type: none"> Able to use ship specific parameters in a finite element program, in determining the hull resistance and the rudder forces. 					
C. Attitudes					
<ul style="list-style-type: none"> Interested, responsive, independent, take care for the deadlines. 					
D. Autonomy and Responsibility					
<ul style="list-style-type: none"> Pro-activity in professional work, the self-standing selection of the relevant solution methods. Making decision circumspectly. 					
18. Requirements, way to determine a grade (obtain a signature)					
Mid-term requirement: preparing 1 semestrial home work					
Final grade: 1 exam (measuring the theoretical knowledge), 1 semestrial home work, the final grade is the average of the parts second exam and delayed submission of the homework					
19. Opportunity for repeat/retake and delayed completion					
Delayed submission of the homework					
20. Learning materials					
Dr. Kovács A.-Dr. Benedek Z.: A hajók elmélete					
Volker Bertram: Practical ship hydrodynamics					

ITTC recommendations
Scientific publications of the department

Effective date	10 October 2019	This Subject Datasheet is valid for	Inactive courses
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