



Budapest University of Technology and Economics

Faculty of Mechanical Engineering

Department of Energy Engineering

<http://www.energia.bme.hu/>


# FINAL PROJECT ASSIGNMENT

**Publicly Available**

Identification	Name: <b>Aqel Saif-Aldain Ahmad Deeb</b>		ID: <b>73763256003</b>	
	Code of the Curriculum: 2NAAG0		Specialisation: 2NAAG0-PE	Document ref. number: GEEN:2026-1:2NAAG0:QTY3S6
	Curriculum: Bachelor of Science Degree Program in Mechanical Engineering			
	Final Project issued by: Energetikai Gépek és Rendszerek Tanszék		Final exam organised by: Áramlástan Tanszék	
	Supervisor: Dr. Lezsovits Ferenc (71957946594), associate professor			

Project Description	Title	<b>Heat transfer and fluid flow calculations of industrial shell boilers and evaluation of operation conditions</b> Nagyvízterű ipari kazánok hőátadási és folyadékáramlási számításai, valamint működési feltételek értékelése
	Details	1. Give an overview of application of shell boilers in industrial energy supply 2. Select a certain design of shell boilers for investigation and show its main data 3. Make combustion calculations considering gaseous and/or liquid fuel firing 4. Make heat transfer calculations for both fluegas and water-steam side 5. Make hydraulic calculations for both fluegas and water-steam side 6. Summarize all calculations and evaluate operation conditions of selected boiler 7. Make a sensitivity analysis of selected shell boiler on possible operation condition variations 8. Summarize all the results and evaluate them
	Advisor	Advisor's Affiliation: Advisor: ,

Final Exam	1 <sup>st</sup> subject (group)	2 <sup>nd</sup> subject (group)	3 <sup>rd</sup> subject (group)
	<b>ZVEGEENBGHK</b> Hőközlés	<b>ZVEGEVGBX01</b> Áramlástechnikai gépek	<b>ZVEGEENBGEB</b> Energetikai folyamatok és berendezések

Authentication	Handed out: 8 September 2025		Deadline: 12 December 2025	
	Compiled by: Dr. Lezsovits Ferenc (71957946594) Supervisor		Verified by: Dr. Attila Imre (signed) Head of Department	
			Approved by: Dr. Gábor Györke (signed) 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.			
	..... Aqel Saif-Aldain Ahmad Deeb			