



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
	Curriculum: Bachelor of Science Degree Program in Mechanical Engineering	Document ref. number: GEEN:2026-1:2NAAG0:QTY3S6
	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)
	ZVEGEENBGHK Hőközlés	ZVEGEVGBX01 Áramlástechnikai gépek	ZVEGEENBGEB 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
	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.	