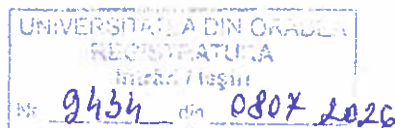


UNIVERSITATEA DIN ORADEA

**Facultatea de Inginerie Energetică
și Management Industrial**

Nr. 625 data 08.07.2026

Pt aviz CA și aprobare SUC.
Prorector MT,



Aurea 10

H.S. 40/16.07.2026

Către

Conducerea Universității din Oradea

În atenția domnului Prorector prof. univ. dr. ing. habil. Gabriel BENDEA

Stimate domnule Prorector,

Vă înaintăm planul de învățământ pentru un program **BIP (Blended Intensive Program)** - **Thermal Energy in Green Transition: Technologies, Integration, and Sustainability**, oferit în cadrul Alianței EU Green și organizat de Departamentul de Inginerie Energetică, Facultatea de Inginerie Energetică și Management Industrial.

Menționăm că planul de învățământ a fost avizat de către Consiliul facultății.

Cu stima,

Decan
conf.univ.dr.ing. Cristina Hora



CURRICULUM

Valid from academic year 2025-2026

UNIVERSITY OF ORADEA

**FACULTY OF ENERGY ENGINEERING AND INDUSTRIAL MANAGEMENT
DEPARTMENT OF ENERGY ENGINEERING**

***Blended Intensive Program - Thermal Energy in the Green Transition: Technologies,
Integration, and Sustainability***

Duration of studies / no. of credits: 2 months/4 credits



1. MISSION OF THE STUDY PROGRAM

This *Blended Intensive Program* addresses the role of thermal energy in the green transition by combining theoretical foundations, technological developments and practical applications. Building on the academic value of a previous edition hosted by the University of Gavle in June 2025, the 2026 edition offers participants an integrated perspective on thermal technologies, sustainability, energy conversion, storage, distribution and system integration. The program responds to current needs in education, research, industry and policymaking by focusing on sustainable thermal solutions, renewable energy integration and interdisciplinary approaches to thermal science. It also creates a platform for international cooperation among students, researchers, academic staff and industry stakeholders.

2. OBJECTIVES OF THE STUDY PROGRAM

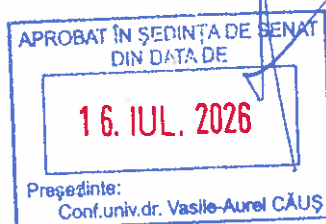
The main aim of the programme is to equip participants with advanced knowledge, practical skills and international perspectives related to sustainable thermal energy technologies and their contribution to the green transition.

- To introduce fundamental and advanced principles of thermal science, including thermodynamics and heat transfer.
- To examine current trends in thermal energy conversion, storage, distribution and renewable thermal energy systems.
- To explore the integration of thermal technologies into sustainable energy systems, including sector coupling and system integration.
- To develop participants' ability to connect thermal energy concepts with their own research, study field or professional expertise.
- To foster international collaboration, academic networking and exchange of regional applications within the EU GREEN context.

3. COMPETENCES ACQUIRED BY GRADUATES UPON COMPLETION OF THEIR STUDIES

Upon successful completion of the program, participants will be able to:

- Explain key principles of thermodynamics, heat transfer and thermal energy systems in the context of sustainable development.
- Analyse the role of thermal energy storage, distribution and renewable thermal technologies in the green transition.
- Evaluate examples of thermal energy applications such as district heating, geothermal energy, heat pumps, solar thermal systems and energy storage solutions.
- Apply ICT-related methods and system integration concepts to thermal science problems.
- Develop and present an individual project connected to their own academic, research or professional background.
- Collaborate in an international and interdisciplinary learning environment.



TIME DISTRIBUTION OF VIRTUAL AND PRESENTIAL ACTIVITIES

Modules	Hours				Total	Assessment Type	Credits	IS [hours]
	VT	VP	PT	PP				
Module 1:								
Thermodynamics	2	-	-	-	6	Cv	1	19
Heat Transfer	2	-	-	2				
Module 2:								
Thermal Energy Storage	-	-	2	2	12	Cv	1	13
Thermal Energy Distribution	-	-	2	6				
Module 3:								
Renewable Thermal Energy	2	-	2	7	11	Cv	1	14
Module 4:								
ICT Methods for Thermal Science	2	-	-	3	11	Cv	1	14
Sector Coupling and System Integration	2	-	-	4				
TOTAL	10	-	6	24	40		4	60

VT – Virtual Theory; VP – Virtual Practical; PT – Presential Theory; PP – Presential Practical

Program Director,
Assoc.Prof. Codruta Calina BENDEA



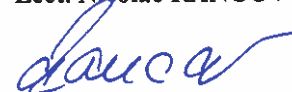
RECTOR,
Prof. Constantin BUNGĂU



DEAN,
Assoc.Prof. Cristina Mirela HORA



Head of Department,
Lect. Nicolae RANCOV




CURRICULUM

Modules	Hours				Type of Assessment	Credits	IS* [hours]
	C	S	L	P			
Module 1: Thermodynamics	2	-	-	-	Cv	1	19
Heat Transfer	2	-	2	-			
Module 2: Thermal Energy Storage	2	-	2	-	Cv	1	13
Thermal Energy Distribution	2	-	6	-			
Module 3: Renewable Thermal Energy	4	-	7	-	Cv	1	14
Module 4: ICT Methods for Thermal Science	2	-	3	-	Cv	1	14
Sector Coupling and System Integration	2	-	4	-			
TOTAL	16	-	24	-		4	60

Legend: C – Lecture (Course); S - Exercises; L – Practical works (laboratory); P - Project; IS - Individual Study;
 Felul verif. – Type of assessment; Ex. - Exam; Cv. - Colloquium; Vp. – Mid-term verification; Pr. - project; A/R-
 Pass/Fail; Credits – number of ECTS credits

* One credit point requires a total of 25 hours of study

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