



# Integrating Climate Education in Agricultural Curricula: Institutional Mission and Capacity Building

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# The Climate Challenge Facing Agriculture



Climate change represents one of the most significant global challenges affecting the agricultural sector, directly influencing food security, natural resource management, and the sustainability of agroecosystems worldwide.

Higher education institutions play a crucial role in preparing agricultural professionals capable of addressing climate-related risks and uncertainties. Climate education becomes not only an academic priority but also a key element of institutional responsibility in supporting sustainable development.

# Research Objectives



## Analytical Focus

Examine approaches to integrating climate education into agricultural higher education curricula



## Institutional Case

Demonstrate implementation mechanisms using Bila Tserkva National Agrarian University as an example



## Broader Impact

Identify systemic strategies for climate education integration across disciplines

# Comprehensive Transformation



## Curriculum Design

Embed climate knowledge across courses and programs



## Teaching Methodologies

Implement interdisciplinary learning and digital tools



## Learning Outcomes

Ensure relevant climate competencies for professional training

Climate knowledge should not be limited to a single discipline but systematically integrated throughout educational programs using innovative pedagogical approaches, including project-based education.

# European Policy Alignment

## Strategic Response

Ukrainian higher education institutions increasingly respond to European environmental policy frameworks, particularly the European Green Deal and global sustainability agenda.

Many universities have identified education greening as a strategic priority, introducing programs focused on environmentally safe technologies, environmental economics, and sustainable natural resource management.



# Progress and Implementation Gaps

## Current Progress

- Environmental responsibility included as general competency in bachelor's standards
- Environmental learning outcomes incorporated in numerous educational standards
- Programs on resource-efficient technologies established

## Critical Gap

Environmental and climate competencies insufficiently represented in educational standards for social sciences, management, and administration fields.

Paradox: Professionals responsible for decision-making in public administration and business receive limited training in environmental issues.

📌 Addressing this gap requires a systemic approach to integrating climate education across all academic disciplines.



# Case Study: Bila Tserkva National Agrarian University

## Institutional Mission

Preparation of highly qualified, competitive, and environmentally responsible specialists capable of supporting sustainable agricultural sector development.

## Integration Approach

Environmental and climate components systematically integrated into all educational programs implemented at the university.

# Combined Curriculum Model

01

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## **Fundamental Environmental Disciplines**

Students study General Ecology and related courses providing theoretical basis for understanding ecological processes

02

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## **Professional Course Integration**

Environmental and climate aspects incorporated into content of many professional courses across different programs

03

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## **Systematic Knowledge Building**

Combined model integrates environmental knowledge systematically while ensuring relevance to professional training

# Erasmus+ ClimEd Project Impact

## Project Focus



Multilevel Local, National and Regional Education and Training in Climate Services, Climate Change Adaptation and Mitigation

Participation enabled development of new educational modules, teaching materials, and digital learning resources focused on climate change adaptation and mitigation

Climate modules piloted during 2025–2026 within master's programs across agronomy, livestock production, economics, veterinary medicine, food technology, public administration, and law

The image displays four course cards arranged horizontally. Each card features a distinct illustration at the top, followed by a title in Ukrainian, a checkbox with course details, a red 'Enter this course' button, and a 'No completion criteria' label at the bottom.

- Card 1:** Illustration of a tractor, globe, sun, and rain. Title: "Стратегії пом'якшення наслідків зміни клімату і ...". Checkbox: "Другий рівень вищої освіти. Кліматичне обслуговування."
- Card 2:** Illustration of a city skyline with solar panels. Title: "Стратегії пом'якшення наслідків зміни клімату і ...". Checkbox: "Другий рівень вищої освіти. Кліматичне обслуговування."
- Card 3:** Illustration of a farm with a tractor and a tree. Title: "Пом'якшення зміни клімату та адаптація до неї: ...". Checkbox: "Другий рівень вищої освіти. Пом'якшення зміни клімату та адаптація до неї."
- Card 4:** Illustration of a globe on a grassy field. Title: "Економіка змін клімату: тематичні дослідження ...". Checkbox: "Другий рівень вищої освіти. Пом'якшення зміни клімату та адаптація до неї."

# Climate Education in Ukraine under War Conditions

01

## War-Driven Environmental Damages

Ecosystems destruction  
Soil, water and air pollution  
Damaged industrial infrastructure  
Long-term “toxic environmental legacy”

02

## Role of Universities

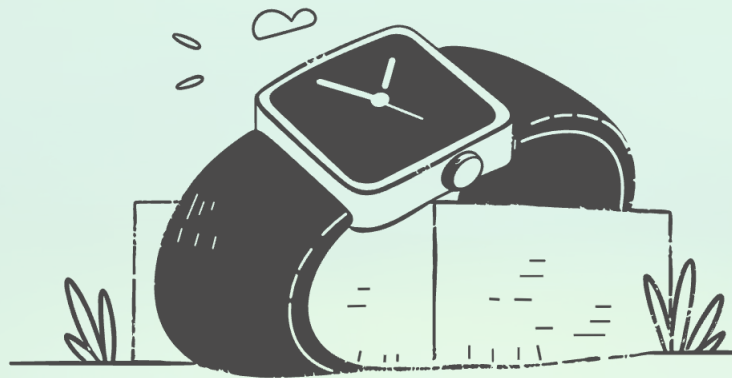
Strengthening environmental awareness  
Promoting responsible resource management  
Integrating climate education into curricula

03

## Training Future Specialists

Environmental impact assessment  
Climate risk analysis  
Sustainable recovery planning  
Green reconstruction strategies

# Strategic Priorities for Climate Education



## Institutional Commitment

Leadership support for climate education



## Curriculum Innovation

Updated climate-focused content



## Interdisciplinary Learning

Climate knowledge across disciplines

## International Cooperation and capacity-building initiatives

Alignment with European sustainability and climate policies

**Thank You**

Appreciation for your attention



**Questions?**

Open for discussion now