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**Project “Enhancing capacity of universities to initiate and to participate in clusters development on innovation and sustainability principles” (UniClaD)**

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**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
BILA TSERKVA NATIONAL AGRARIAN UNIVERSITY  
FACULTY OF ECONOMICS**

**Department of finance, banking and insurance**

**WORKING PROGRAM OF THE EDUCATIONAL  
DISCIPLINE «CONCEPTUAL BASIS OF SUSTAINABLE  
DEVELOPMENT OF AGROSPHERE»**

BRANCH OF KNOWLEDGE	05 «Social and behavioral sciences», 07 «Management and administration»
SPECIALTY	051 «Economy» 071 «Accounting and taxation» 072 «Finance, banking and insurance and the stock market» 073 «Management» 075 «Marketing» 076 «Entrepreneurship, trade and stock market activity»
LEVEL OF HIGHER EDUCATION	The third, Doctor of Philosophy PhD
FACULTY	Economic

Bila Tserkva 2024



## **1. DESCRIPTION OF THE EDUCATIONAL DISCIPLINE**

According to the curriculum for the 2024-2025 academic year, 120 academic hours (4 ECTS credits) has been allocated for the study of the discipline «Conceptual principles of sustainable development of the agricultural sector», including classroom hours - 60 hours (lectures - 28, practical classes - 30, exam - 2), independent work - 60 hours.

The purpose of studying the discipline «Conceptual foundations of sustainable development of the agricultural sector» is the formation of a graduate student's ability to acquire generalization skills based on a critical analysis of available scientific information and own knowledge, obtained under the training program, of problems of different scales related to the interaction of nature and society and the implementation of principles sustainable development.

The discipline «Conceptual foundations of sustainable development of the agricultural sector» is aimed at forming in students a system of knowledge on the interpretation of the theoretical foundations evolution of the sustainable development concept, the principles of its implementation, its categorical apparatus, the specifics of the methodological tools for the study of sustainable development at the micro- and macro-levels of the economy and the peculiarities of its application, understanding the need to take into account the principles of sustainable development in justifying the growth directions of the economic system. A special feature of the study of «Conceptual principles of sustainable development of the agricultural sector» is an integrated course, a mandatory part of the national university education system, which links into a system such components as economic, ecological and social in the development of various countries and the world as a whole, which is possible thanks to a systemic approach. The sustainable development of humanity is closely related to the problem of future civilizations development predicting, especially in connection with environmental problems, the complication of food supply and other global threats. The content of the course allows you to get basic ideas about global environmental problems and concepts of sustainable development, highlights the development trends of the green economy (theoretical ideas about it are under study), climate policy, financial sustainability, issues of the participation of the international community, states and business in the implementation of the concept are outlined, its social and gender aspects. Much attention is paid to the peculiarities of the implementation of the sustainable development concept in the agricultural sector of Ukraine.



The discipline has an interdisciplinary nature and in the practical examination of the problems of global and national development of the economy, each graduate student works out taking into account the topic of the dissertation research. This approach to study aims to provide an innovative and comprehensive character in the formation of the goal and tasks of the dissertation research, including the main issues of sustainable development of the researched problem, justification of measures to solve them, and development of issues that will be of interest to science in the future.

The course «Conceptual principles of sustainable development of the agricultural sector» focuses on the formation of knowledge and worldview regarding the modern trend of combining the growth of the economic system with the principles of sustainable development, which allows to ensure its "qualitative" changes. In recent years, the concept received a new impetus in the conditions of the growing consensus of scientists regarding the climate changes occurring as a result of the use of fossil energy sources by mankind, the financial and economic crisis of the first decade of the XXI century. Awareness of limited natural resources, rising prices for food and raw materials, as a result of which the poorest sections of the population suffer the most. In addition to the above, in the conditions of Ukraine, Russia's military aggression has a negative impact, both on the environment and on the standard of living of Ukrainians, which actualizes the need to implement the principles of sustainable development.

### **Learning outcomes of the whole course**

#### **The purpose of studying the discipline:**

to form modern ideas about the concept of sustainable development as a scientific ideology and an applied field of activity based on the development of scientific ideas about this subject area, as well as generalization and rethinking of previously acquired knowledge.

#### **The student is able to:**

have a systematic scientific worldview and a comprehensive understanding of the connection between economic, ecological and social processes that determine the directions of transformation of the development of the world community, the economy of individual states, and the agricultural sector;

to know the main modern paradigms, concepts, theories (sustainable development, circular and green economy, inclusive growth) and research tools of



economic systems of various levels, to ensure their development taking into account the real conditions of operation;

to possess the skills of determining the interrelationships and mutual influence of environmental, social and economic factors on the development of economic systems of various levels (agrosphere, agriculture, rural territory, agricultural enterprise), to be able to substantiate measures and tools for ensuring their balanced development;

carry out a critical analysis of existing and synthesis of new ideas for solving complex problems of achieving balanced development of economic systems of various levels, organization of research and innovation activities in the field of economics and management;

have skills in formulating a scientific hypothesis and task, planning, conducting scientific research taking into account the principles of the concept of sustainable development and implementing special scientific research on the rational combination of the requirements of sustainable development with Agricultural 4.0, Agricultural 5.0 priorities.

## **Overall structure of the course**

### ***Content module 1. Theoretical foundations of sustainable development***

**Topic 1.1.** Global problems of modern times and concepts of sustainable development, inclusive growth, green and circular economy.

**Topic 1.2.** Climate change and low-carbon development.

**Topic 1.3.** The concept of sustainable development of the agricultural sector: Ukrainian context and European experience.

**Topic 1.4.** Economic sustainability of agricultural production. Regional aspect of the economic sustainability of the agricultural sector.

### ***Content module 2. Development of agriculture as the basis of sustainable development of rural areas***

**Topic 2.1.** Models of alternative agricultural production and determination of the socio-ecological-economic effect of their implementation

**Topic 2.2.** The social component of rural areas: methods of studying the main elements and their interpretation

**Topic 2.3.** Peculiarities of studying the living environment of rural areas

**Topic 2.4.** Tools for ensuring rural development and changes in the countryside for economic growth.



## **Content module 3. Agricultural 4.0 and priority directions in the implementation of the principles of sustainable development by agribusiness**

**Topic 3.1.** Innovative trends in the development of the agrarian sector and special directions for the implementation of the principles of sustainable development.

**Topic 3.2.** Green economy and directions of its implementation in domestic practice Principles of financial sustainability and sustainable financial products.

**Topic 3.3.** Tools for the implementation of corporate social responsibility by agribusiness and principles of value-oriented management.

### **Unit description**

#### **4.1 Description of Unit 1**

<p><b>Module 1. Theoretical foundations of sustainable development</b></p> <p><b>Topic 1.1.</b> Global problems of modern times and concepts of sustainable development, inclusive growth, green and circular economy.</p> <p><b>Topic 1.2.</b> Climate change and low-carbon development.</p> <p><b>Topic 1.3.</b> The concept of sustainable development: Ukrainian context and European experience.</p> <p><b>Topic 1.4.</b> Economic sustainability of agricultural production. Regional aspect of the economic sustainability of the agricultural sector.</p>	<p><b>Estimated duration for students:</b></p> <p>Lectures - 10 hours; practical classes - 12 hours, independent work - 24 hours.</p> <p>Lectures – 2 hours; practical classes - 2 hours, independent work - 6 hours.</p> <p>Lectures – 3 hours; practical classes - 2 hours, independent work - 6 hours.</p> <p>Lectures – 3 hours; practical classes - 4 hours, independent work - 6 hours.</p> <p>Lectures – 2 hours; practical classes - 4 hours, independent work - 6 hours.</p>
<p><b>Content:</b></p> <p><b>Topic 1.1.</b></p> <ol style="list-style-type: none"> <li>1. Prerequisites for the emergence of the concept of sustainable development, circular and green economy, inclusive growth.</li> <li>2. International cooperation in the field of sustainable development.</li> <li>3. Priorities and goals of sustainable development of Ukraine.</li> <li>4. Modern problems of science and education in the transition to sustainable development.</li> </ol>	<p><b>Competences:</b></p> <p><b>The learner is able to</b></p> <p style="padding-left: 40px;">have knowledge of global problems and the peculiarities of their manifestation, to be able to systematize global problems and justify directions for their solution within the framework of ensuring the balanced development of economic systems of various levels;</p> <p style="padding-left: 40px;">know the main modern problems of the development of the world community; key provisions of the concept of sustainable development; circular and green economy, inclusive growth, a list of the main events and measures to promote the transition</p>



<p><b>Topic 1.2.</b></p> <ol style="list-style-type: none"> <li>1. Goals and objectives of the Strategy for adaptation to climate change of agriculture, forestry and fisheries of Ukraine for the period up to 2030</li> <li>2. Priorities of the Food and Agriculture Organization of the United Nations (FAO)</li> <li>3. Low-carbon development strategy of Ukraine until 2050.</li> </ol> <p><b>Topic 1.3.</b></p> <ol style="list-style-type: none"> <li>1. Domestic experience of implementing the concept of sustainable development: The goals of sustainable development of Ukraine and the directions of their achievement in the conditions of martial law</li> <li>2. Monitoring system of Sustainable Development Goals in domestic practice</li> <li>3. Experience of the countries of the European Union in the implementation of the concept of sustainable development, circular and green economy, inclusive growth</li> </ol>	<p>to sustainable development at the global level; to be able to justify directions of greening of domestic agricultural production; to know the strategic goals of the development of the agrarian sector of the economy, related to the need to transition the agrarian sector to a model of sustainable development and to propose rational solutions for its implementation;</p> <p>be able to systematize modern problems of science and education regarding the transition of the economic system during the transition to sustainable development;</p> <p>know the aspects of international climate policy and the constituent elements of the Low Carbon Climate Sustainable Development Strategy of Ukraine; to be able to identify the consequences of climate change and generalize the scientific principles of their research; have the skills to justify the main directions and tools for promoting international development in the field of climate change;</p> <p>be able to characterize the main prerequisites for the adoption of the concept of sustainable development, qualitative economic growth, circular and green economy at the world, European and national levels; to understand the need to combine the efforts of the state and business in ensuring the implementation of the concept of sustainable development; justify the need for the transition of the domestic economy and its agricultural sector to the model of the modern concept of development; have the skills to identify the impact of Russian aggression on achieving the Sustainable Development Goals of Ukraine;</p> <p>know and be able to use the main international databases of statistical data of the UN, World Bank, World Value Survey, SIPRI (International Institute for the Study of World Problems), comparative indices and ratings;</p> <p>have an idea of the role of energy policy in the transformation of the EU (clean energy - green economy - inclusive growth) and determine the directions of their implementation in the conditions</p>
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<p><b>Topic 1.4.</b></p> <ol style="list-style-type: none"> <li>1. The essence of the "economic sustainability" category</li> <li>2. Concepts and factors of economic sustainability of the agricultural sector</li> <li>3. Indicators of assessment of the economic sustainability of agricultural development</li> <li>4. The concept of regional stability of socio-economic systems.</li> <li>5. Factors and indicators of economic sustainability of agricultural production at the regional level.</li> </ol>	<p>of the post-war recovery of Ukraine;</p> <p>know the essence of the economic sustainability category; sequence of research of economic systems based on system analysis; a list of the main internal factors influencing the development of the domestic agrosphere; to be able to characterize external factors affecting the development of the domestic agricultural sector at the national and global levels; the economic content of the main indicators of sustainable development at the global, national, local, and organizational levels;</p> <p>be able to comprehensively analyze the problems of ensuring the economic sustainability of agriculture; to calculate the value of indicators of economic sustainability of the agricultural sector; to assess the relative level of sustainability of economic development of the agricultural sector on the basis of relevant indicators; calculate sustainability indicators at the global, national and local levels; find sources of information on obtaining these indicators;</p>
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#### Multiple choice test

Multiple choice test will be given in the lectures and/or seminars during the course. The test will be given using the Moodle platform of the BTNAU and you must ensure you have access to this platform for the test, when required.

#### Written assignment

Four assignments (written) will also be given which must be completed and uploaded to the Moodle platform of the BTNAU before the end of the module.

#### Video assignment

Four assignments (video) will also be given, which must be completed and uploaded to the Moodle platform of the BTNAU before the end of the module.

<p><b>Module 2.</b></p> <p><b>Topic 2.1.</b> Models of alternative agricultural production and determination of the socio-ecological-economic effect of their implementation.</p> <p><b>Topic 2.2.</b> The social component of</p>	<p><b>Estimated duration for students:</b></p> <p>Lectures - 10 hours; practical classes - 12 hours, independent work - 24 hours.</p> <p>Lectures – 2 hours; practical classes - 4 hours, independent work - 6 hours.</p> <p>Lectures - 4 hours; practical classes - 4 hours, independent work - 6 hours.</p>
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<p>rural areas: methods of studying the main elements and their interpretation</p> <p><b>Topic 2.3.</b> Peculiarities of studying the living environment of rural areas</p> <p><b>Topic 2.4.</b> Tools for ensuring rural development and changes in the countryside for economic growth.</p>	<p>Lectures – 2 hours; practical classes - 2 hours, independent work - 6 hours.</p> <p>Lectures – 2 hours; practical classes - 2 hours, independent work - 6 hours.</p>
<p><b>Content:</b></p> <p><b>Topic 2.1.</b></p> <ol style="list-style-type: none"> <li>1.General characteristics of alternative farming systems.</li> <li>2.Wetland and soil conservation-healing agriculture.</li> <li>3.Organic farming as a component of sustainable development of the agricultural sector.</li> <li>4. Innovative systems of bioprotection and biosafety</li> </ol> <p><b>Topic 2.2.</b></p> <ol style="list-style-type: none"> <li>1. The social component in the structure of rural areas and its role in ensuring their sustainable development.</li> <li>2. The structure of the social component of rural areas, rural settlements, their composition and dynamics.</li> <li>3. Capitalization of human resources.</li> <li>4. Ruralization of local self-government</li> </ol> <p><b>Topic 2.3.</b></p> <ol style="list-style-type: none"> <li>1. The concept of "living environment" and its structure.</li> <li>2. Social and environmental responsibility of agribusiness for the production of public goods.</li> <li>3. Expanding access to basic services.</li> <li>4. Overcoming spatial isolation</li> </ol> <p><b>Topic 2.4.</b></p> <ol style="list-style-type: none"> <li>1. Concept of rural development.</li> <li>2. Diversification of economic activity in the countryside.</li> </ol>	<p><b>Competences:</b></p> <p><b>The learner is able to</b></p> <p>know the models of alternative agriculture and the requirements for their practical implementation; be able to justify the advantages of alternative models of agricultural production and innovative systems of bioprotection and biosecurity</p> <p>be able to comprehensively analyze the macroeconomic situation and socio-economic trends of the development of agriculture and justify the main directions of ensuring its balanced development;</p> <p>know the essence of the social component in the structure of rural areas and its role in ensuring their sustainable development; to be able to determine the structure of the social component of rural areas, to know the concept of "rural settlements", their composition and dynamics of development; understand the interpretation of the concept of capitalization of human resources;</p> <p>know the principles of multifunctional development of agriculture as the basis of sustainable development of rural areas and to have an understanding of the concept of ruralization of local self-government;</p> <p>know the definition of the concept of "living environment" and its structure; understanding of the social and environmental responsibility of agribusiness for the production of public goods and the specifics of its manifestation in Ukrainian practice; to be able to identify the factors of ensuring sustainable development on the basis of expanding access to basic services and overcoming the spatial isolation of rural areas;</p> <p>understand the concept of "rural development" and the principles of its implementation; know the forms of diversification of economic activity in the</p>





<p>3. Prevention of the impact of climate change.</p> <p>4. Organizational and financial support of family farming.</p> <p>5. Labor migration of the rural population - challenges and opportunities</p>	<p>countryside as a factor in ensuring the sustainable development of rural areas and be able to develop measures and tools to prevent the impact of climate change, organizational and financial support of family farming in the countryside as a factor in the sustainable development of rural areas in order to overcome labor migration of the rural population;</p> <p>have the skills to identify the main socio-ecological and economic problems of the development of the agrosphere (agrarian sector, agriculture, rural territory, agricultural enterprise) and develop directions for achieving their socio-ecologically oriented development;</p> <p>have the skills to form a system of principles of rural development and substantiate measures for their implementation in scientific research</p>
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#### Multiple choice test

Multiple choice test will be given in the lectures and/or seminars during the course. The test will be given using the Moodle platform of the BTNAU and you must ensure you have access to this platform for the test, when required.

#### Written assignment

Four assignments (written) will also be given which must be completed and uploaded to the Moodle platform of the BTNAU before the end of the module.

#### Video assignment

Three assignments (video) will also be given, which must be completed and uploaded to the Moodle platform of the BTNAU before the end of the module.

<p><b>Module 3.</b></p> <p><b>Topic 3.1.</b> Innovative trends in the development of the agrarian sector and special directions for the implementation of the principles of sustainable development.</p> <p><b>Topic 3.2.</b> Green economy and directions of its implementation in domestic practice. Principles of financial stability and stable financial products.</p> <p>Topic 3.3. Tools for the implementation of corporate social responsibility by agribusiness and</p>	<p><b>Estimated duration for students:</b></p> <p>Lectures - 8 hours; practical classes - 6 hours, independent work - 12 hours.</p> <p>Lectures – 3 hours; practical classes - 2 hours, independent work - 2 hours.</p> <p>Lectures – 3 hours; practical classes - 2 hours, independent work - 6 hours.</p> <p>Lectures – 2 hours; practical classes - 2 hours, independent work - 4 hours.</p>
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<p>principles of value-oriented management.</p>	
<p><b>Content:</b> <b>Topic 3.1.</b> 1. Agricultural 4.0 and its main characteristics. 2. Features of the innovative development of the agro-food sector of Ukraine 3. Directions of a rational combination of innovative and sustainable development of the agrarian sector of the economy</p> <p><b>Topic 3.2.</b> 1. Green economy and directions of its implementation in domestic practice 2. The concept of "sustainable financing and its task of its implementation. 3. Policy on the development of sustainable financing for the period up to 2025 in Ukraine. 4. The main instruments of sustainable financing and the mechanism of their circulation.</p> <p><b>Topic 3.3.</b> 1. ESG principles and directions for their implementation: international experience and domestic practice 2. Corporate social responsibility of agricultural companies as a tool for sustainable development of rural areas 3. Toolkit of value-oriented management of agricultural companies.</p>	<p>be able to systematize the forms and tools of state policy in the field of sustainable development and justify the development of appropriate measures and regulatory levers; be able to identify new opportunities and challenges of innovative development of economic systems of various levels and justify measures to solve them, in particular, in the priorities of sustainable development, circular and green economy, inclusive growth;</p> <p>know the principles of the "green economy" and have a comprehensive understanding of stable financial products, the peculiarities of their regulation; to know the functioning mechanism of the national and international market of stable financial products;</p> <p>know ESG principles and understand the role of taxonomies, ESG ratings of national and international standards of sustainable financing; have skills in developing tools of value-oriented management in the activities of agricultural companies; be able to systematize the modern problems of science regarding the transition of the economic system during the transition to sustainable development, to substantiate the directions of environmentalization of domestic agricultural production; to know the strategic goals of the development of the agrarian sector of the economy, related to the need for the transition of the agrarian sector to a model of sustainable development, and to propose rational solutions for its implementation.</p>

Multiple choice test

Multiple choice test will be given in the lectures and/or seminars during the course. The test will be given using the Moodle platform of the BTNAU and you must ensure you have access to this platform for the test, when required.



### Written assignment

Four assignments (written) will also be given which must be completed and uploaded to the Moodle platform of the BTNAU before the end of the module.

### Video assignment

Four assignments (video) will also be given, which must be completed and uploaded to the Moodle platform of the BTNAU before the end of the module.

## **Development of an individual task (Simulation project)**

The preparation of an individual task is one of the important forms of studying the discipline "Conceptual principles of sustainable development of the agrosphere" in the educational and scientific program of training for a PhD. The implementation of an individual task is aimed at strengthening the research component in the process of studying under the program and at developing research competences and relevant practical skills in the students.

The main goal of the individual task is to develop the knowledge of the components of sustainable development and the skills and abilities of their adaptation to the problem of dissertation research. In the course of work at the seminars, there is a direct transfer from the teacher to the graduate student of the experience of the concept of "sustainable development", its component tools and their interdependence, which are further examined by the graduate student on the example of the researched object of the dissertation work. During the seminars and during the consulting support of the graduate student, the teacher acts as a mentor, guiding the individual task in a logical sequence, observing the theoretical and methodological principles of the problems of sustainable development mainly in agriculture, explaining the meaning and content of the scientific research process, stimulating interest in scientific work.

The purpose of completing an individual task by a graduate student:

- formation of an idea of the most relevant research problems in the field of achieving sustainable development of the economy;
- acquiring skills in the use of theoretical knowledge in the field of sustainable development when conducting dissertation research and comprehensive analysis of problems in implementing the principles of sustainable development at the macro- and micro-levels;
- development of skills in preparation of analytical reviews, scientific articles and reports;
- development of presentation skills and discussion of research results;
- scientific-methodical support of dissertation candidates from choosing a topic to discussing the finished version.

Algorithm for performing an individual task:

1. Systematization of factors that affect the implementation of the principles of sustainable development of the subject and the object of research on the topic of the dissertation;
2. Justification of the hypothesis, goal and objectives of the dissertation research taking into account the principles of the concept of sustainable development;
3. Development of an algorithm for solving the scientific problem considered in the dissertation research, taking into account the principles of sustainable development;
4. Generalization of normative and legal regulation of the investigated problem in the aspect of sustainable development requirements: domestic and international aspects;
5. Preparation of the presentation and report.



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### **Assessment Elements:**

participation in discussions in the audience;  
homework (analytical research paper);  
tests (the test is passed if the student gets 80% and more correct answers);  
Simulation Project;  
modular control works;  
Final exam in the form of a written work and a test.