



## SYLLABUS OF AN ACADEMIC DISCIPLINE SYSTEMS OF TECHNOLOGIES

**Academic degree - Bachelor's**  
**Specialty 075 Marketing**  
**Academic programme Marketing**

**Year of study 1, semester 1**  
**Form of study** full-time, part-time  
**Number of ECTS credits 4 (8)**  
**Language of instruction** English

**Lecturer of the discipline**  
**Lecturer's contact information (e-mail)**  
**URL of the e-learning course on the NULES e-learning portal**

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<https://elearn.nubip.edu.ua/course/view.php?id=459>

### ACADEMIC DISCIPLINE DESCRIPTION

The main goal of the discipline is to provide knowledge on creating optimal technological (agro-ecological) conditions for producing the required quantity of high-quality plant products based on intensive photosynthesis in field crops, while simultaneously maintaining or enhancing soil fertility. The primary task is to gain practical skills in producing high-quality, environmentally friendly products with minimal energy and labor costs while maximizing output per unit of time per unit of area. This requires the widespread implementation of varietal, intensive, energy- and resource-saving, ecologically appropriate technologies. It aims to develop a system of knowledge among future specialists in plant production, skills in the rational selection and effective application of various technological elements to increase crop productivity, reduce production costs, and enhance the competitiveness of the obtained products.

#### Competences of the discipline:

*Integral competence (IC):* The ability to solve complex specialized tasks and practical problems characterized by complexity and uncertainty in the field of management or in the process of learning, which involves the application of theories and methods of social and behavioral sciences.

*General competences (GC):*

GC 4. The ability to learn and acquire modern knowledge.

GC 6. Knowledge and understanding of the subject area and understanding of professional activities

GC 14. The ability to act socially responsibly and consciously.

*Special (professional) competences (SC):*

SC 4. The ability to conduct marketing activities based on an understanding of the essence and content of marketing theory and the functional relationships between its components.

SC 5. The ability to correctly apply marketing methods, techniques, and tools.

SC 3. The ability to determine the prospects for the development of an organization.

SC 14. The ability to propose improvements to the functions of marketing activities.

#### Expected Learning Outcomes (ELO):

ELO 16. Meet the requirements for a modern marketer, enhancing the level of personal professional training.

ELO 19. Demonstrate skills in developing a company's marketing policy, applying modern methods, concepts, and tools of marketing product policy, pricing, distribution, communications, consumer behavior research, and target audience formation to determine the prospects for market entities' development.

## ACADEMIC DISCIPLINE STRUCTURE

| Topic  | Hours<br>(lecture/lab<br>ratory,<br>practical,<br>seminar) | Learning outcomes  | Tasks  | Assessm<br>ent            |
|--|--|--|--|---------------------------|
| <b>Semester 1</b>  |  |  |  |                           |
| <b>Content Module 1: Features and prospects of using marketing tools in crop production</b>  |  |  |  |                           |
| <b>Topic 1.</b> General characteristics of the crop production market in Ukraine. Crop production as a science and an agricultural sector. | <b>2/2</b>   | To know about the current state and prospects of development in the field of crop production   | Perform laboratory work<br>1. General characteristics of cereal crops.   | <b>11</b>                 |
| <b>Topic 2.</b> About grain and the grain market in Ukraine and the World. Grain industry products.  | <b>2/2</b>   | To know the significance, distribution, morphological, and biological characteristics of agricultural crops.                                 | Perform laboratory work<br>2. Characteristics of crops and growth stages of cereal crops.<br>Independent work 1. | <b>11</b><br><br><b>5</b> |
| <b>Topic 3.</b> Marketing approaches in winter wheat cultivation   | <b>2/2</b>   | To know modern technologies for cultivating field crops and the peculiarities of their implementation in the soil-climatic zones of Ukraine. | Perform laboratory work<br>3. Botanical and morphological characteristics of wheat.                              | <b>11</b>                 |
| <b>Topic 4.</b> Early and late spring cereals – organizational principles of effective cultivation   | <b>2/2</b>   | To know the ways to improve the quality of agricultural products.  | Perform laboratory work<br>4. Features of the morphological structure of corn. Independent work 2.               | <b>11</b><br><br><b>5</b> |
| <b>Topic 5.</b> The legume market: development, trends, and forecasts. marketing approaches in pea and soybean cultivation technologies.   | <b>2/2</b>   | To know the sources of costs for cultivating agricultural crops and ways to optimize them.   | Perform laboratory work<br>5. Leguminous crops. Growth and development features. Independent work 3.             | <b>11</b><br><br><b>5</b> |
| <b>Module 2. Organization of cultivation of industrial crops (raw materials) for processing industry.</b>                                  |  |  |  |                           |
| Topic 6. The tuber market. general characteristics and features of using marketing tools in their cultivation technology.                  | <b>2/2</b>   | Being able to plan and organize the implementation of technological procedures in crop production.   | Perform laboratory work<br>6. Potato. Botanical characteristics.<br>Independent work 4.                          | <b>12</b><br><br><b>5</b> |
| Topic 7. Root crops. Sugar beets as the primary raw material for sugar production in Ukraine.  | <b>2/2</b>   | Understanding and being able to apply innovative elements in crop cultivation technologies.  | Perform laboratory work<br>7. General characteristics of root crops.<br>Independent work 5.                      | <b>12</b><br><br><b>5</b> |
| Topic 8. The role of oilseed crops in the market in Ukraine and the World.   | <b>2/2</b>   | Being able to program the yield of agricultural crops.   | Perform laboratory work<br>8. Characteristics of representatives of the oilseed group.<br>Independent work 6.    | <b>13</b><br><br><b>5</b> |

|  |              |   |  |             |
|--|--------------|---|--|-------------|
| Topic 9. Sunflower and rapeseed – the main oilseed crops of Ukraine and the World. Factors influencing successful cultivation. | 2/2          | Knowing and being able to plan the production of high-quality, environmentally safe products with minimal energy costs per unit of output.  | Perform laboratory work 9. Sunflower. Morphological structure. Independent work 7. | 13<br>5     |
| <b>Content Module 3. Mechanization in crop production. Theoretical basis of Labor protection</b>                               |              |   |  |             |
| Topic 10. Organization of Labor Protection in Crop Production  | 2/2          | Students will be able to identify and implement safety measures and protocols to ensure the protection of workers engaged in crop production activities   | Perform laboratory work 10.<br><br>Independent work 8.                             | 8<br><br>10 |
| Topic 11. General issues of the discipline. Tractors and cars. Machines for tillage, fertilization and planting of crops.      | 2/2          | Students will gain a comprehensive understanding of the types and functionalities of tractors, cars, and various agricultural machines used for soil preparation, fertilization, and crop planting. | Perform laboratory work 11.  | 7           |
| Topic 12. Machines for plant protection, green harvesting and harvesting of cereal crops                                       | 2/2          | Students will be equipped with the knowledge to operate and maintain machines designed for crop protection, green harvesting, and harvesting of cereal crops efficiently and effectively.           | Perform laboratory work 12.  | 8           |
| Topic 13. Machines for post-harvest processing of cereals, harvesting corn and potatoes  | 2/2          | Students will develop proficiency in utilizing machines for post-harvest processing of cereals as well as harvesting corn and potatoes, ensuring optimal handling and storage practices.            | Perform laboratory work 13.<br><br>Independent work 9.                             | 7<br><br>10 |
| Topic 14. Machines for harvesting root crops of beets, flax, vegetables and fruit and berry crops                              | 2/2          | Students will learn to operate and manage machines specialized in the harvesting of root crops, including beets, flax, various vegetables, and fruit and berry crops, while maintaining quality.    | Perform laboratory work 14.  | 10          |
| Topic 15. Labor Protection when Working with Mechanisms  | 2/2          | Students will acquire the necessary skills and knowledge to ensure the safety of personnel when operating machinery,  | Perform laboratory work 15.  | 10          |
| <b>Total for 1 semester</b>  | <b>30/30</b> |   |  | <b>70</b>   |
| <b>Exam</b>  |              |   |  | <b>30</b>   |
| <b>Total for course</b>  |              |   |  | <b>100</b>  |

## ASSESSMENT POLICY

|   |   |
|---|---|
| <b><i>Deadlines and exam retaking policy:</i></b> | <ul style="list-style-type: none"> <li>• Tasks must be submitted on time, according to the delivery schedule.</li> <li>• Penalty for delay:               <ul style="list-style-type: none"> <li>- 10% – less 1 month</li> <li>- 20% – more 1 month</li> </ul> </li> </ul> <p>Re-assessment will be allowed if you pass all tasks in module</p> |
| <b><i>Academic integrity policy:</i></b>          | Plagiarism and re-delivery tasks don't allow  |
| <b><i>Attendance policy:</i></b>                  | Attendance is mandatory. For objective reasons (for example, illness, international internship) training can take place individually (in online form in consultation with the dean of the faculty)  |

### SCALE FOR ASSESSING STUDENTS 'KNOWLEDGE AND SKILLS

| Student's rating, points | National grading of exams and credits |         |
|--------------------------|---------------------------------------|---------|
|                          | exams                                 | credits |
| 90-100                   | excellent                             | pass    |
| 74-89                    | good                                  |         |
| 60-73                    | satisfactorily                        |         |
| 0-59                     | unsatisfactorily                      | fail    |

### RECOMMENDED SOURCES OF INFORMATION

1. *CROP PRODUCTION GUIDE AGRICULTURE*. Tamil Nadu Agricultural University. Link: <https://www.freebookcentre.net/biology-books-download/gotoweb.php?id=13855>
2. Graham Thiele, Michael Friedmann, Hugo Campos, Vivian Polar, Jeffery W. Bentle. *Root, Tuber and Banana Food System Innovations*. Springer, 2022. DOI: <https://doi.org/10.1007/978-3-030-92022-7>
3. Kalenska S., Dmytrishak M., Antal T., Mazurenko B., *Crop production with basis of fodder production*, Kyiv, 2021. [In Ukrainian]
4. Petrichenko V.F., Lykhochvor V.V. *Roslynnytstvo. Novi tekhnolohii vyrashchuvannia polevykh kultur: pidruchnyk. - 5-te vid., vyrav., dopov.* Lviv: NVF "Ukrainski tekhnolohii", 2020. 806 p. (Title: *Crop Production. New Technologies for Field Crop Cultivation: Textbook*)
5. *Crop production manual*. FAO. 2020. Available at: <https://www.fao.org/3/ca7556en/CA7556EN.pdf>
6. *Statistics in Agriculture*. Available at: <https://fao.org/faostat>
7. Ministry of Agriculture Politics <http://www.minagro.kiev.ua/>
8. *Technology of cultivation (field crops)* <http://agro-business.com.ua/>
9. *Technology of cultivation (field crops)* <https://www.agronom.com.ua/>