

**NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL
SCIENCES OF UKRAINE**

Department of Plant Science

“APPROVED”

Dean of the Faculty of
Agricultural Management

_____As. prof. Ostapchuk A. D.

“ ” _____ 2020

DISCUSSED AND APPROVED

on the meeting of the
Department of Plant Science

Report # 33, 15th of June 2020

Head of the department
_____ prof. S.M. Kalenska

**SYLLABUS of
Academic Discipline “TECHNOLOGIES OF CROP PRODUCTION”
for QL “Bachelor”**

Specialty - 073 Management

Educational program – Management

Faculty – Agricultural Management

Syllabus compiled by graduate teaching assistant Mazurenko Bohdan

Kyiv–2020

1. Description of course “TECHOLOGIES OF CROP PRODUCTION”

Field of knowledge, direction, specialty, educational and qualification level		
Education and qualification level	bachelor	
Specialty	073 «Management»	
Education program	Management	
Characteristics of training programme		
Type	Normative	
The total number of academic hours	120	
Number of ECTS credits allocated	4	
Number of modules	3	
Course work	—	
Forms of control	Examination	
Indicators of academic discipline for full-time and part-time forms of training		
	Full-time	Part-time
Year (course)	1	--
Semester	1	--
Number of lectures	30	--
Practical and seminary sessions	--	--
Laboratory sessions (activities)	30	--
Independent study	60	--
Individual task		
Number of auditorium hours a week for full-time leaning:	4	

2. Goal and objectives of academic discipline

Goal of the course is to provide the theoretical knowledge and practical skills of the production of plant products, skills in the rational choice and effective use of various elements of technology in order to increase the productivity of culture and reduce the cost of production

Learning objectives is to develop the students' knowledge and skills in the

Based on the study of plant biological characteristics, students will be able to further develop measures and methods for optimizing environmental factors to maximize the potential of agricultural crop productivity. The discipline is based on the knowledge about the plants of field culture, the peculiarities of their development, the requirements for environmental factors, modern techniques and technologies for the cultivation of high yields of high quality at the lowest cost of labor and funds. In turn, crop production is the basis for such sciences as economics and organization of agricultural production.

Studying the technologies of production of crop production requires from students certain knowledge on the basics of agriculture, soil science, land reclamation, agrochemistry, plant growing, etc.

Upon completion of this course, students should be able

➤ **to know:**

- main directions of development of crop production in Ukraine and the world;
- economic importance, biological characteristics of field crops, distribution and productivity potential;
- modern technologies of cultivation of high, ecologically pure crops in different soil-climatic zones of Ukraine;
- ways to improve the quality of agricultural products;
- measures to prevent harvest losses during harvesting, transportation and storage;
- ways to reduce the cost of labor to grow a crop.

➤ **be able to:**

- plan and organize the implementation of work processes in crop production using agricultural machinery, fertilizers and pesticides;
- to apply the achievements of science and best practices in production;
- to plan the production of quality, environmentally friendly products with minimum energy and labor costs at its maximum output per unit time per unit area;
- to use operational information for timely and qualitative holding of a complex of agricultural works, prevention of emergence and elimination of negative situations in the process of production of plant products

Competency:

➤ General:

- Ability to abstract thinking, analysis, synthesis.
- Ability to apply knowledge in practical situations
- Knowledge and understanding of the subject area and understanding of professional activity.
- Information and communication technology skills.
- Ability to learn and master modern knowledge.
- Ability to work in an international context.

➤ Professional:

- Basic knowledge of the main parts of agricultural (crop production, agriculture, selection and seed production, agrochemistry, fruit growing, vegetable growing, soil science, fodder production, mechanization in crop production, plant protection).
- Knowledge and understanding of basic biological and agrotechnological concepts, rules and theories related to the cultivation of agricultural and other plants
- Ability to evaluate, interpret and synthesize theoretical information and practical, production and research data in the fields of agricultural production
- Ability to solve a wide range of problems and tasks in the process of growing crops, by understanding their biological characteristics and using both theoretical and practical methods
- Ability to manage complex actions or projects responsibility for decision-making in specific production conditions.
- Ability to grow, reproduce crops and carry out technological primary processing and storage operations

3. Program and structure of Academic Discipline for full-time

№	Themes and modules to be covered	weeks	Hour			
			Full-time			
			total	lecture	practical work	Independent study
Module 1. Crop production. Structure of cropping system						
1	Introduction in agriculture. Crop classification	1	10	2	4	4
2	Elements of cropping system	2-4	16	6	2	8
3	Cropping/cultivation system card	5	8	2	2	4
	Summary Module 1		34	10	8	16
Module 2. System in agriculture						
4	Classification of cropping system	6	8	2	-	6
5	Industrial/Intensive systems	7	12	2	2	8
6	Organic farming	8	8	2	2	4
7	Precision farming	9	8	2	2	4
	Summary Module 2		36	8	6	22
Module 3. Technologies of crop cultivation						
8	Winter and spring cereals	10-11	20	4	8	8
9	Legumes	12	8	2	2	4
10	Tuber and root crops	13	8	2	2	4
11	Oil crops, essential and fiber crops	14-15	14	4	4	6
	Summary Module3		50	12	16	22
	TOTAL, hours		120	30	30	60

4. Themes of seminary classes

#	Name of theme	Number of hours
	Not provided	

5. Themes of practical classes

#	Name of theme	Number of hours
	Not provided	

6. Themes of laboratory activities

#	Name of theme	Number of hours
1	Introduction in agriculture. Biology and morphological structure of plant.	2
2	Crop classifications	2
3	Elements of cropping system	2
4	Structure of cultivation cards	2
5	Typical industrial cropping technologies of cereals	2
6	Typical industrial cropping technologies of crops	2
7	Elements of precision farming	2
8	Winter cereals. Biology and morphology	4
9	Spring cereals. Biology and morphology	4
10	Legumes. Biology and morphology	2
11	Tuber and root crops. Biology and morphology	2
12	Oil crops. Biology and morphology. Classification of oil and oil crops	2
13	Essential and fiber crops	2
	Totally, hours	30

7. Control questions

Form № N-5.05

F-7.5-2.1.6-24

NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCE OF UKRAINE

QL «Bachelor» Educational program «Management»	Department of Plant Science 2020-2021 educational year	EXAM TICKET #15 Discipline: System of technologies: crop production	Approved Head of department (sign) Kalenska S.M. 2020
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Exam questions (essay – 100-200 words) – Екзаменаційні запитання

1. **Types of sowing the agriculture crops** (*Способи сівби с.-г. культур*)
2. **Biological peculiarities of sunflower** (*Біологічні особливості соняшнику*)

Tests

1.	Mais(corn) forms two types of inflorescences. There are ... (Назвіть 2 види суцвіть у кукурудзи)
A	Ear/spike (колос)
B	Corn cob (початок)
C	Panicle (волоть)
D	Flowerhead (кошик)_

2.	Fruit of family Fabaceae (Legumes) is. (Плід бобових це...)
A	Caryopsis (зернівка)
B	Pod/pulse (біб)
C	Silicle (стручок)

3.	Root vegetables(taproots, example sugar beet) is ... crops (Коренеплоди за циклом розвитку це...)
A	Annial (однорічні)
B	Biennial (дворічні)
C	Perennial (багаторічні)

4.	High oil content (more 30 %) forms in seed of: (Високий вміст олії в зерні у ...)
A	Wheat (пшениця)
B	Mais (кукурудза)
C	Soja (соя)

5. **Cereals have a low oil contents in seeds. (True or false)**

6.	Essential oils in fennel and anise are containing in (ефірна олія в анісу та фенхелю міститься в)
A	Stem/sprout (пагін/стебло)
B	Seed (насіння)
C	Inflorescence (суцвіття)
D	Root (корінь)

7.	Fruit of Cereals (fam. <i>Graminea</i>) is. (Плід злакових це...)
A	Caryopsis (зернівка)
B	Pod/pulse (біб)
C	Silicle (стручок)

8.	Stem of cereals is (Коренеплоди за циклом розвитку це...)
A	Strow (соломина)
B	Vine (лоза/ліана)
C	Tuber (бульба)

9.	High oil content (more 30 %) forms in seed of: (Високий вміст олії в зерні у ...)
A	Wheat (пшениця)
B	Mais (кукурудза)
C	Sunflower (соняшник)

10. Flax (*Linum*) cultivating for fiber and seeds. (*True or false*)

8. Teaching methods

Verbal, visual, practical

9. Forms of control

Module control, individual work, exam

10. Evaluation and grading

#	Activity	Points	Participation in	
			work in semester, %	overall assessment, %
Module 1. Crop production. Structure of cropping system				
1	Theme 1. Introduction in agriculture. Crop classification	30	9	21
2	Theme 2. Elements of cropping system	20	6	
3	Theme 3. Cropping/cultivation system card	20	6	
4	Module control #1	30	9	
	Summary for module #1	100	30	
Module 2. System in agriculture				
5	Theme 5. Industrial/Intensive systems	30	9	21
6	Theme 6. Organic farming	20	6	
7	Theme 7. Precision farming	20	6	
8	Module control #2	30	9	
	Summary for module #2	100	30	
Module 3. Technologies of crop cultivation				
9	Theme 8. Winter and spring cereals	35	14	28
10	Theme 9. Legumes	10	4	
11	Theme 10. Tuber and root crops	10	4	
12	Theme 11. Oil crops, essential and fiber crops	15	6	
13	Module control #2			
	Summary for module #3	100	40	
	Attestation: Work during semester	70	-	70
	Attestation: exam	30		30
	Summary for course			100

Grading system: National

National grade	Grade according to national system	Percentage score
passed	Excellent	90 – 100
	Good	74-89
	Satisfactory	60-73
Not-passed	Unsatisfactory	0-59

11. Methodical supply

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

12. Required and recommended literature

Basic:

➤ **Crop production**

<http://publicatio.bibl.u-szeged.hu/5833/1/CROP%20PRODUCTION%20-%20Tam%C3%A1s%20Monostori.pdf>

Additional:

➤ **Agriculture crop production.** Basic educational curriculum.

<https://www.freebookcentre.net/biology-books-download/Agricultural-Crop-Production.html>

➤ **The Principles of Agronomy a Text-Book of Crop Production for High-Schools Schools and Short-Courses in Agricultural Colleges**

https://www.dphu.org/uploads/attachements/books/books_2257_0.pdf

13. Informational resources

➤ **FAO. Publications**

<http://www.fao.org/publications/en/>

➤ **FAO. Agriculture statistic**

<http://www.fao.org/faostat/en/#home>