Discipline	Organic Farming and Agroecology code: 50 summer semester	
Specialty	AGRONOMY	
ECTS credits: **6**	Form of assessment: Exam	
Lecturer	Assoc. prof. Albena Ivanova, PhD Room: NUK 317a Phone: +359 52 385 725 E-mail: a.ivanova@tu-varna.bg	
Department	PLANT PRODUCTION	
Faculty	*FACULTY OF MECHANICAL ENGINEERING AND TECHNOLOGIES*	

Learning objectives:

Annotation:
The curriculum is intended for students of a Bachelor's degree program in Agronomy. The course "Organic Farming and Agroecology" consists of two parts. The first part, "Organic Farming", deals with plant production without use of synthetic fertilizers, herbicides and chemicals against pests. The crop rotation used in this type of production is considered; methods of soil treatment; the use of animal manure, vegetable waste and fertilizer siderators; weed control and biological control of diseases and pests; raising livestock on organic farms; the certification of organic farms and the realization of organic production; the development of organic production in the world and in Bulgaria. The second part - "Agroecology" - deals with the study of agroecosystems with the different types of environmental relations, ecological aspects of crop rotation, soil cultivation, sowing, mineral fertilization, biological and ecological characteristics of weeds, plant diseases and pests and the fight with them.
The course "Organic Farming and Agroecology" clarify the basic principles of organic farming, the basic criteria and normative documents regulating the organic production, as well as the characteristics of the agroecosystems in view of the proper ecological implementation of agronomic practices in plant production.
Main issues of the syllabus content:

- Organic farming - essence, principles, development;
- Organic production of plant and livestock;
- Organic farming - certification of organic farms and the realization of organic production, development of organic production in the world and in Bulgaria;
- Agroecology - a general characteristic of agroecosystems;
- Agroecology - plant ecotypes according to their adaptation to cultivation, biological rhythms, phenological development of plants;
- Agroecology - biotic relationships in agroecosystems.

CONTENTS:

Training Area	Hours lectures	Hours seminar exercises

Nature and basic principles of organic farming.	1	
Development and certification of organic agriculture.	2	
Suitable crop rotations for organic farming, soil treatment.	2	
Organic fertilizers used in organic farming.	4	
Combating soil weeds in organic farming.	2	
Methods of combating diseases and enemies in organic farming.	4	
Peculiarities in animal husbandry in the biological production of products.	2	
Marketing of biological products.	2	
Concept of agroecology. General characteristics of agroecosystems.	1	
Plant ecotypes, according to their adaptation to cultivation.	2	
Biological rhythms. Phenological development of plants.	2	
Relationships between plants.	2	
Relationships between plants and microorganisms.	2	
Relationships between plants and animal organisms.	2	
Normative basis of organic agriculture in Bulgaria.		3
Determination of some economic and quality indicators of field crops produced by conventional and biological methods.		4
Application of plant decoctions and infusions in organic farming to limit the development of plant enemies.		3
Application of good agricultural practices for the benefit of the climate and the environment.		4
Biological methods of combating the enemies of cultural plants.		4
Biodynamic agriculture.		4
Determining the differences between natural ecosystems and agroecosystems.		4
Influence of allelopathy on the development of plants in biocenoses.		4
TOTAL: **60 h**	**30**	**30**