**Ecology of an Individual, Population and Association**

The discipline is intended for the undergraduate students and aims to form up-to-date ideas on personal characteristics of individuals and their species, the influence of ecological factors on them, the pattern of behaviour and the interaction of individuals in populations, ecological characteristics of populations, peculiarities of the interrelations of organisms in biocoenoses, research into the flows of matter and energy in ecosystems.

Principal tasks of the discipline are: to study correct comprehension of the processes that take place under interaction of organisms with each other and with the environment; to form ideas on ecological links in supraorganismal systems, and the structure and functions of these systems.

Upon the study of the course the students shall

*know*: a mechanism of the influence of ecological factors on functioning of individual organisms and their associations; the structure of populations, associations and ecosystems and the laws of their functioning; classification and properties of biocoenoses, food chains and trophic levels; the levels of structural organization of matter in the biosphere; mechanisms of the influence of human activity on the state of the biosphere;

*be capable*: to use the gained knowledge in the practical and research activity.

**Basic topics of the discipline**

1. Object and tasks of General Ecology. Factorial Ecology (Autecology).

1.1. Object and tasks of Ecology of the Individual, the Population and the Association. Methods of ecological researches. Formation and development of Ecology of species, populations and biocoenoses.

1.2. Factorial Ecology. Adaptation.

1.3. Basic habitats of organisms

1.4. Types of interaction between the organisms

2. Ecology of Populations and Association (Demecology).

2.1. The Concept of Ecology of populations.

2.2. Principal characteristics of populations.

2.3. Population dynamics

2.4. Interaction of organisms within the population and beyond its limits.

2.5.Association as an ecological unit.

3. Biocoenology (Synecology)

3.1. Biocenosis as a natural system.

3.2. Phytocenology

3.3. Biocenotic structure of associations

3.4. Biocenosis dynamics

3.5. Agrobiocenoses