

Course Summary

Course Title: HUMAN ECOLOGY

Credits: 3.5 (126 h.)

Course objective

Mastering theoretical knowledge in the field of optimal human existence in the ecologically safe environment and preservation of the gene pool of human population.

Course tasks

Learn how to optimize and harmonize relations between humans and the environment to create environment-friendly conditions for human existence.

Course outlines

Subject, tasks and directions of Human Ecology development. Human in terms of evolution stages. Evolution of the human ecological niche and their modern environment. Ecological system and its stability. Types of human interaction with nature. Ecosystem stability. Main concepts of ecosystem stability. Human and the Universe. Impact of physical parameters of the earth structure, geodynamics internal processes on the human organism. Interference of external earth shell and humans. Global environmental problems and human health. Medical Geography and Ecology. The concept of environmental hygiene. Medical ecology fundamentals. Basic concept and terms. Professional pathology. Medical ecology. Endoecology. Radiation ecology. The concepts of environmental toxicants. Biological toxicants. Biochemistry of the human organism. Macro-and micro components, their properties and influence on the human organism Xenobiotics in ecological systems. Bioindication of environmental toxicants in human biological environment. Environmental diseases. Ecology and demography. Mechanical population migration. Natural population increase. Gene pool of the nation and the environment. The problem of protein deficiency. The evolution of modern humans and the environment. The main modern demographic concepts. Ecology and demography. Ecology of human populations. Environmental factors and human health. Human health criteria. Environmental diagnostics. Ecological problems of human nutrition. Directions for human health improvement. The general patterns of human adaptation. Influence of environmental and social factors on demographic processes and the health of citizens of Ukraine.

Learning outcomes

After completing the course the students should be able to:

- apply the basic fundamental ecological knowledge in the formation of personal attitudes towards environmental issues;
- determine the harmful anthropogenous factors and level of environmental risk to humans;
- use the natural methods of health improvement;
- make practical decisions about personal health safety solution under extreme environmental situations;
- Develop the conservation measures to preserve the humans in the present socio-environmental conditions.

Training activities: lectures and lab studies.

End-of-the-term assessment: examination.

**Head of the Ecology Department,
Professor A.I. Gorova**