

COURSE TITLE:

HUMAN ECOLOGY I.

COURSE DESCRIPTION:

Introduction to human ecology, characteristics of ecosystems. Definitions, biosphere, types of ecosystems, ecological systems, ecological disasters, dynamics and stability of ecosystems, productivity of ecosystems

Ecological events in the populational levels, dynamics of human populations. Characteristics of populations: population density, birth rate, death rate, structure of populations, age-classes, sexual ratio, expected life span

Population genetics: Hardy-Weiberg rule, mutation, selection, evolution, population dynamics, migration

Ecological and cultural adaptation, the relationships between man and his environment, human being in the ecosystems, human adaptation, abiotic factors: light, temperature, air, water, soil, geophysical factors

Biotic factors: inter- and intraspecies relationships, biorhythms, biological daily rhythm, annual rhythms, cultural adaptation: civilisation diseases, urbanisation

The role of cultural factors in secular growth changes, cultural ecology and ecological anthropology, ecology of Steward, ethno-ecological aspects

The human influences on biosphere: the changes of environment through utilizing the environmental sources, the changes of environment through environmental loading, changes of the ecosystem: changes of the micro-environment, changes of the soil, changes of the atmosphere

Human origin agents: pesticides, waste, radioactive radiation, radiation load, bioindication, environmental conservation

Methods of collection nutrition, human ecological aspects of human nutrition, vegetal production, animal production, biological production, alternative nutrient sources, biosynthesis

Human nutrition: calorie needs, energy flow, basic metabolic rate, essential nutrients, pre- and postnatal development, physical activity, social aspects of nutrition: lifestyle, socio-economic factors

Ecology of diseases: the influences of environmental factors on health, populational differences in the prevalence of infectious and non-infectious diseases, biological responses to infectious and non-infectious diseases

Parasitism: epidemiology, infections, invasions, diseases, parasites

Poisoning and allergiogenesis, immunity, the groups of human diseases, prevention

Human ecological aspects of energy supply in the world: problems and perspectives, the energy and substance flow of the biosphere, information flow, human energy needs, energy sources: types, traditional and alternative energy sources, advantages and disadvantages of energy sources, environmental conservation

LITERATURE:

Dodd, J.R., Stanton, R.J. (1990) Paleoecology. Concepts and applications. John Wiley and Sons, New York.

Freye, H-A. (1985) Humanökologie. Fischer Verlag, Jena.

TEACHER:

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professor