



Code	Subject Title	Cr. Hrs	Semester
ZOOL-316	Environmental Biology	3	VI
Year	Discipline		
3	Zoology		

Succession and Stability: Community change during succession, Ecosystem change during succession, Mechanism of succession, Community and ecosystem stability

Environmental Pollution: Primary and secondary pollutants, point and non point pollutants, Air Pollution sources: Origin, dispersion and impact on human, crops and forest of Particulates, Sulphur oxides, Nitrogen oxides & volatile organic compounds, Carbon monoxide, carbon dioxide, Smog & PAN, MTBE (methyl tertiary butyl ether) & CFCs (chlorofluorocarbons), Noise pollution; Measuring noise, Health damage from noise, Control of noise, Water pollution; Sources of water pollution, Fate of water pollution, Composition and properties of water pollutants, Domestic and industrial effluents, Heavy metals and their impact on aquatic life, Water purification in nature, Waste water treatment, Wetland sewage treatment; cleaner water, cheaper, and prettier, Land Pollution; Pesticides (pollutants made to kill), Inorganic pesticides, Synthetic organic pesticides, Biochemical (bacterial toxins and synthetic hormones), Chemical pesticides (non-target toxicity), Chlorine, dioxin and PCBs (polychlorinated biphenyls), Reducing pesticide use, Thermal pollution, Warm water drainage from nuclear reactor, Radioactive pollution, Radioactivity leakage from nuclear reactor.

Population Ecology: Population dynamics, Pattern of survival and dispersion, Age of distribution, sex ratio, Dispersal, Population growth, Geometric & exponential population growth, Logistic population growth, Limits of population growth.

Population Ecology of man: Chemical & biological warfare, Ecocrises, Environmental management, Environmental ethics & politics, Economics of ecology, Community studies, Concepts of animal behaviour communication.

Contemporary environmental themes: Ozone depletion, Green house effect, Global warming, Acid rain, Desertification, Deforestation, Environmental laws.

Textbooks

1. M.L. McKinney, 1999. Environmental Science: System and Solution Jones & Bartlett Publication, Boston
2. R. Lloyd, 1992. Pollution and Freshwater Fishing News Books.
3. Manuel C. Moller Jr. 2002. Ecology (Concepts and solutions). McGraw-Hill publishers.

Additional Readings

1. C.E. Mason, 1996. Biology of Freshwater Pollution, Longman Publication.
2. Smith, 1988. Ecology and Field Biology, National Book Foundation.
3. Krebs, 2000. Ecology: The experimental analysis of distribution and application.
4. E.P. Odum, 1996. Ecology: A Bridge between science & society.
5. R.K. Singh, 1998. Human Ecology.
6. Miller, Jr., 2002. Living in the environment. Ed.
7. Peter Stillig, 2002. Ecology (Theories and Applications). Prentice Hall publications.