



Code	Subject Title	Cr. Hrs	Semester
ZOOL-429	Bacteriology	2	VIII
Year	Discipline		
4	Zoology		

Course Contents

Laboratory equipment and procedures: Pure culture, pure culture technique, culture preservation, Aseptic technique, Sterilization, Chemical Sterilization, Staining techniques, Microscopy, visible light microscopy, Ultraviolet and electron microscopes.

Metabolic pathways: Life needs, growth factors, the environment, Classification: a Physiological method, Energy production, Aerobic cellular respiration, Fat and protein metabolism, biosynthesis and metabolism, controlling metabolism.

Growth and reproduction: Increasing mass and populations, the population growth curve, The growth curve; home, industry and hospital, counting methods, viable cell count, Biomass determination, biological assay.

Collection, cultivation and identification of microbes:

Laboratory work, Symptoms, Collecting and handling specimens, Media selection and preparation, balancing the environment, Oxygen requirements for culturing.

The Control of Microbes: Different approaches to control, factors that influence success, surface active agents, the methods and material of control, the ideal antibiotic, the development of drug resistance, overcoming resistant pathogens.

Recommended Books

- Pelczar, M.J. Jr., Chan, E.C.S. and Krieg, N.R. 1986. Microbiology– McGraw Hill Inc., New York.
- Benson, H.J., 1994. Microbiological applications. WmC Brown Publishers, Dubuque, USA.
- Alcamo, E. 1994. Fundamentals of Microbiology. The Bengamin/Cummings Publishing Co. Inc. Redwood city, CA 94065.
- Pelczar, M.J. Jr., Chan, E.C.S. and Krieg, N.R. 1993. Microbiology concepts and applications – McGraw Hill Inc., New York.