Ph.D Microbiology

Mic. 611: Molecular Biology of Viruses 2 (2+0)

Introduction on the molecular biology of plant, animal and bacterial cells. Transcription, translation and replication of different viruses. Gene expression in vitro and in vivo-laboratory applications, genetic maps-interactions with host-activities.

Mic. 612: Technology and new Advancement in Virology 2 (2+0)

Studies on viruses infecting tissue cultures and protoplast methods for detection of viral infections and diagnosis using molecular probes, recombinant DNA technology, gene description and mapping techniques on genetic engineering and the epidemics.

Mic. 621: Advanced studies in Bacteriology 2 (1+1)

Supervised readings and discussion of experimental approaches in bacteriology including related Journals.

Mic. 622: Advanced Pathogenic Bacteria 2 (2+0)

Detailed study of frequency isolated pathogenic bacteria including intracellular bacteria.

Mic. 623: Antibacterial agents and plasmids 2 (1+1)

Advanced lectures and laboratory studies in antibiotics with reference to antibiotics resistance particularly these mediated by plasmids.

Mic. 631: Advanced Biology of Fungi 2 (1+1)

Structure and function of fungi, growth and nutrition dispersal of fungi, ecology of saprophytic fungi, fungal genetics, resistance virulence.

Mic. 632: Advanced fungal parasitism 2 (2+0)

Fungal life-style. Plants as an environment fungus plant conformation. Effects of pathogenic fungal infusion on host plant plant physiology. Biotechnology in the study of fungus-plant interactions.

Mic. 633: Advanced studies in fungal symbiosis 2 (1+1)

Detailed study of physiology and structure of symbiotic fungi, host-symbiont interactions, their effects on host growth and their agricultural applications.

Mic. 641: Advanced microbial ecology 2 (2+0)

Concepts in ecology as applied to mcirobial systems including analysis of communities, interactions and biogeochemical factors.

Mic. 651: Applied Serology and Vaccines 2 (1+1)

Basis of immunology; revision. Sera and serological techniques in identification of bacteria, viruses, fungi and protozoa and their application techniques of monoclonal antibodies. Vaccines technology and design and against viral, bacterial, fungal protozooms diseases-new developments.

Mic. 652: Techniques in microbial molecular genetics 2 (2+0)

Genetic manipulation of bacteria, virusus, bacteriophage and yeast. Fundamentals of gene splicing and molecular cloning. Applications.

Mic. 661: Spores biology 2 (2+0)

Mechanisms of he formation and germination of spores their toleration to ecological factors and their role in the microbial dispersal, pollution and infection.

Mic. 662: Advanced medical microbiology 2 (2+0)

Pathogenesis of bacterial, fungi and viruses. The major epidemic diseases. Immune interaction chemotherapy, vaccination and control measures. Gene therapy.

Mic. 671: Advanced topics in Microalgae 2 (2+0)

Recent advances in micro-algae, assigned readings reports and discussion, may include laboratory work.

Mic. 691: Seminar 1 (1+0)

Selected topics presentation and discussion of in microbiology accroding to the guidance of the course instructor.

Mic. 692: Special topics 3 (2+1)

Advanced topics in Microbiology (Virology, Bacteriology, Mycology, Phycology) according to the need of the student and guidance of the supervisor.

Mic. 700: Dissertation