



MC203 Aug 3:0

Essentials in Microbiology

Instructor

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Teaching Assistant

Email:

Department: Microbiology and Cell Biology

Course Time: Mon, Wed, Fri, 11.00-12.00 PM

Lecture venue: MCB lecture hall

Detailed Course Page:

Announcements

Brief description of the course

This is a core course for Int PhD in Biological Sciences. This course is very crucial to lay the basic foundation for further understanding of biological processes

Prerequisites

None

Syllabus

Fascinating world of microbes; Principles of microscopy; Microbial diversity, evolution and genomics; Mechanisms of horizontal gene transfer, Microbes as model systems of development, Microbes as bioreactors and sensors; bioremediation; bacterial cell structure and function; Bacterial physiology and nutrition; Bacteriophages- virulent and temperate; phage life cycles; Plasmids, Transposons; Understanding and combating bacterial pathogenesis; Antibiotics- mechanisms of drug resistance and mode of action; Quorum sensing and biofilms; Pathogens and beneficial microorganisms; Adaptive and Innate immune system, Major histocompatibility molecules and T cell receptors, Antigen Processing and presentation, Cytokines and chemokines, Molecular basis of cell-mediated cytotoxicity, Immunity to pathogens, Cancer Immunology,

Recent trends in Immunology, Vaccines.

Course outcomes

The students learn to understand and appreciate the basic mechanism of biological processes .

Grading policy

50% for the sessional , 50% for final

Assignments

Resources