

Activities for VUMIE Online – Summer 2023

Section 1 Basic Skills of the Microbiology Lab

- Overview of VUMIE Online
- Lab Safety
- Ubiquity
- Scavenger Hunt: Microbes Around Us
- Bacterial Growth
- Types of Growth Media
- Aseptic Tube-Tube Transfers
- Streaking Plates in VUMIE Online
- Making Lawns
- Scavenger Hunt: Bacterial Anatomy
- Gram Stains
- Microscopy

Section 2 Testing and Identification

- Selective and Differential Media
- Use of Indicators and Reagents
- Scavenger Hunt: Microbial Physiology
- Sugar Fermentation
- Amino Acid Utilization Tests
- Video-based Tests
- ID Strategies for Gram Negative Bacilli
- Triple Sugar Iron Agar (TSIA)
- IMViC Series
- ID Strategies for Gram Positive Cocci
- Blood Hemolysis
- Bile Esculin Agar

Section 3 Health Microbiology

- Concepts of Health and Disease
- Infectious Disease and Epidemiology
- Scavenger Hunt: Infectious Diseases
- Pathogenicity and Virulence
- Innate Immune Defenses
- Adaptive Immune Defenses
- Scavenger Hunt: Immunity
- Cardiovascular System Infections
- Respiratory System Infections
- Digestive System Infections
- Genitourinary System Infections
- Nervous System Infections
- Nosocomial Infections
- Scavenger Hunt: More on Diseases

Section 4 Other Activities

- **Scavenger Hunts**
- **Most Probable Number (MPN)**
- **Principles of Hand Hygiene**
- **Kirby-Bauer Antibiotic Susceptibility Test**
- **Effectiveness of Antiseptics and Disinfectants**
- **Rapid ID using Biochemical Test Panels**
- **Save The Patient Unknowns**
- **Creating Research Posters from VUMIE Online Unknowns**
- **Starting Your Fantasy Microbiology League**