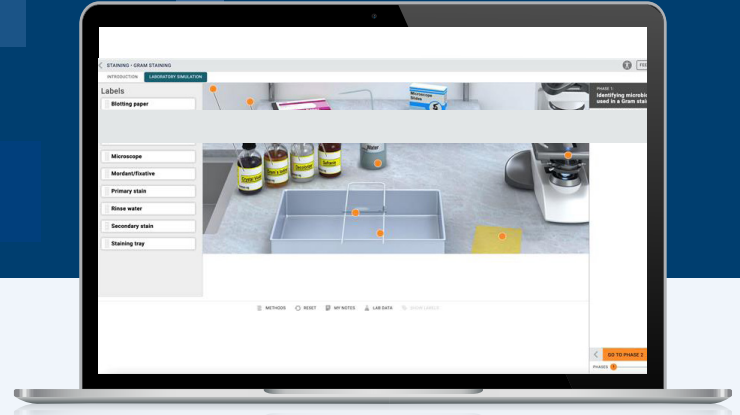


A Realistic Simulated Lab Experience Microbiology

Your students will be better prepared for lab, more efficient, and retain more of the fundamental skills necessary for a successful laboratory experience.



1st Lab Tutorial:

- Virtual Labs Tutorial

Aseptic Technique:

- Ubiquity of Microorganisms
- Sampling Surfaces for Bacteria
- Transfer from Broth to Broth
- Transfer from Broth to Slant
- Transfer from Broth to Agar Plate

Bacterial Genetics:

- DNA Profiling
- PCR
- Bacterial Transformation

Biochemical Testing:

- Antimicrobial Testing for Gram-Positive Cocci Identification
- Blood agar hemolysis test
- CAMP test
- Catalase test
- Citrate test
- Coagulase test
- Phenol red test (glucose fermentation)
- Triple sugar iron (TSI) agar
- Indole test
- MacConkey agar (lactose fermentation)
- Mannitol salt agar
- Methyl red test
- Voges-Proskauer test

- SIM medium
- Nitrate reduction test
- Oxidase test
- Urease Test

Control of Microbial Growth:

- Effects of Ultraviolet Light
- Antiseptics/Disinfectants
- Antimicrobial Sensitivity Testing: Kirby-Bauer

DNA Biology and Technology:

- DNA and RNA Structure
- Enzyme-Linked Immunosorbent Assay (ELISA) Testing
- Gel Electrophoresis
- Isolation of DNA
- Rapid Diagnostic Testing
- Transcription, Translation, and Mutation

Isolation Methods:

- Quadrant Streak Plate Method
- Pour-Plating Method
- Subculturing of Bacteria
- Quantitative Dilution of Bacteria
- Quantification by Colony Counting
- Optical Density

Lab Safety:

- Hand Washing Procedure
- Personal Safety

Microbial Growth:

- Oxygen Requirements and Anaerobic Jar
- Effects of Osmotic Pressure
- Effects of Temperature
- Oxygen Requirements and FTM Tubes
- Effects of pH

Microscopy:

- Operation of a Brightfield Microscope
- Oil Immersion
- Diversity of Microorganisms

Natural Selection:

- Antibiotic-Resistant Bacteria

Staining:

- Smear Preparation
- Gram Staining
- Acid-Fast Staining
- Capsule Staining
- Spore Staining

Unknown Bacteria Identification:

- 10 Samples
- Selective and Differential Media
- Oxidation and Fermentation Tests
- Enzyme Tests
- Multiple Test Media

Virtual Labs makes a positive impact on student success.

With simple setup for instructors and easy navigation for students, our accessible simulations and assessment content create a genuine lab experience for all students.

“I can complete the labs at my own pace and not feel rushed or left behind. If needed, I can also repeat a part of the lab to better understand it and further practice.”

Student, St. Louis Community College

www.bit.ly/thelabisalwaysoopen »

Enhance your Microbiology course in a variety of ways, including:

- Accessible Lab Solution
- Online Lab Courses
- Pre-Lab Preparation
- Post-Lab Review
- Online Lab Supplement