

BIOL 201 Microbiology Laboratory

Credit Hours: 1

Scheduled hours per week

Lecture: 0

Lab: 2

Other: 0

Catalog Course Description: Biology 201 is designed to accompany Biology 200 (Microbiology) lecture to practical laboratory experiences for students requiring a basic medical microbiology course to meet program requirements or as a science elective. Topics include staining procedures, observations and study of fixed specimens using the microscope, and culturing and identifying living microorganisms.

Pre-requisites: BIOL 107 and 108; or BIOL 101/103 and 102/104

Co-requisites: BIOL 200

Course Learning Outcomes:

- Demonstrate acceptable microscopic technique.
- Describe the preparation of bacteriological media.
- Describe the sterilization methods for bacteriological media.
- Isolate bacteria from simulated clinical specimens.
- Demonstrate collection of microbiological specimens.
- Demonstrate aseptic technique in handling microbiological specimens.
- Perform the Gram stain technique.
- Perform such special staining techniques as the acid-fast stain, the capsule stain, and the spore stain.
- Identify according to genus selected saprophytic fungi.
- Identify by microscopy selected animal parasitic agents.
- Identify by simple biochemical tests selected medically important bacteria.
- Perform antimicrobial susceptibility testing.
- Perform disinfection techniques.

Topics to be studied:

- Lab Safety
- Cell Structure and function
- Metabolism
- Microbial growth
- Identification of microbes
- Bacteria
- Yeast and molds
- Antimicrobial drugs

Relationship of Course to Program or Discipline Learning Outcomes:

Relationship of Course to Science Learning Outcomes:	
Students will learn the process and reasoning behind the Scientific Method and be able to conduct experiments that meet the requirements of the model.	X

Students exhibit the basic safety-related rules and regulations of working in the lab.	X
Students be able to recount the basic safety tenants associated with a specific scientific discipline.	X
Students will become proficient at Science Writing.	
Students will recognize and identify the applications of their specific discipline in the 'real world.'	X
Students will accurately recount important milestones in the history of scientific inquiry in their discipline.	
5/3/2016	

Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X
Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	
Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	
5/3/2016	

Special requirements of the course:

None

Additional information:

None

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