BIOL 200 Microbiology
Credit Hours: 3
Scheduled hours per week
   Lecture: 3
   Lab: 0
   Other: 0

Catalog Course Description: Designed for students requiring a basic medical microbiology course to meet program requirements or as a science elective. Topics include types of microorganisms, microbial growth and metabolism, control of microbial populations, microbial resistance, and principles of infection and immunity.

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

Co-requisites: None

Course Learning Outcomes:
- Recognize important historical events in microbiology.
- Explain the germ theory of disease.
- Compare the basic cell structure of prokaryotic and eukaryotic cells.
- Explain basic concepts of bacterial nutrition and growth.
- Explain the classification schemes applied to prokaryotic and eukaryotic organisms.
- Describe methods of control of bacterial populations and infections.
- Describe the normal microbial flora of the body.
- Apply biological relationships to specific states of health and disease.
- Describe nonspecific host defense mechanisms.
- Explain basic principles of immunology.
- Describe microbial disease processes involving the skin and eye.
- Describe microbial disease processes involving the central nervous system.
- Describe microbial disease processes involving the cardiovascular and lymphatic systems.
- Describe microbial disease processes involving the respiratory system.
- Describe microbial disease processes involving the digestive system.
- Describe microbial disease processes involving the urinary system and genital system.
- Give oral presentations to the class.

Topics to be studied:
- Cell Structure and function
- Metabolism
- Microbial growth
- Prokaryotes
- Eukaryotic Microbes
- Viruses
- Disease and immunity
- Pathogenicity
- Antimicrobial drugs

Relationship of Course to Program or Discipline Learning Outcomes:

WVUP UCS Form Revised June 2017
### 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. |
| Students exhibit the basic safety-related rules and regulations of working in the lab. |
| Students be able to recount the basic safety tenants associated with a specific scientific discipline. |
| Students will become proficient at Science Writing. |
| Students will recognize and identify the applications of their specific discipline in the ‘real world.’ |
| 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. |
| 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

**Prepared by:** Joel Farkas  
**Date:** 10/20/2017

*WVUP UCS Form Revised June 2017*