

## Master Syllabus

### BIO 2205 - Microbiology

**Division:** Science, Mathematics and Engineering

**Department:** Biology

**Credit Hour Total:** 4.0

**Lecture Hrs:** 3.0 **Lab Hrs:** 3.0

**Prerequisite(s):** OR BIO 1111 OR BIO 1141 OR BIO 1121 OR BIO 1171 BIO 1107

**Other Prerequisite(s):** OR Other LPN Diploma

**Date Revised:** October 2013

---

### Course Description:

Morphology and physiology of microorganisms and selected human parasites, mechanisms of disease production, host responses, spread of infectious diseases. Three classroom, three lab hours per week.

### General Education Outcomes:

- ❑ Oral Communication Competency
- ❑ Written Communication Competency
- ❑ Critical Thinking/Problem Solving Competency
- ❑ Values/Citizenship/Community Competency
- ❑ Computer Literacy Competency
- ❑ Information Literacy Competency

### Course Outcomes:

#### Microbial Competencies

Properly use scientific names of organisms; discuss the morphological, staining, and biochemical characteristic of microbes; discuss the pathogenesis of infectious diseases; discuss host responses to infectious diseases

**Assessment Method:** Locally developed exams

**Performance Criteria:**

60% of possible points accumulated on exams.

#### Laboratory Competencies

Properly use microscopes; perform microbiological techniques related to isolation, cultivation, and identification of microbes; utilize clinical laboratory methods for diagnostic purposes.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

60% of possible points accumulated on exams.

#### Infectious Diseases

Conduct library and internet research relative to the case study on infectious disease given; write, in proper English, a case study report; present the case study orally, using appropriate oral communication skills, in the lecture portion of the course.

**Assessment Method:** Performance appraisals

**Performance Criteria:**

60% of possible points accumulated on exams.

### Outline:

Introduction to the microbes, microbial classification and nomenclature  
Methods of Studying Microorganisms (e.g. Tools of the Laboratory)  
Structure and Function of Prokaryotic and Eukaryotic Cells  
Microbial Nutrition and Growth  
Microbial Metabolism  
Microbial Genetics and Genetic Engineering  
Physical and Chemical Control of Microbes  
Infection and Disease  
Host Defense Mechanisms