Administrative Unit: Science Department

Course Prefix and Number: BIOL 312

Course Title: Microbiology

Number of Credit Hours: 3 Lecture Hours: 3 Laboratory Hours: 0

Catalog Description: Survey study of microorganisms.

Prerequisite(s)/Corequisite(s): BIOL 110, sophomore standing and concurrent enrollment in BIOL 312L is required.

Text(s): Textbook(s) listed is/are not necessarily the textbook(s) used in the course.


Course Objectives:
- To identify and describe important groups of microbes.
- To describe unique characteristics of microbial metabolism, growth, and reproduction.
- To describe important microbial diseases, microbial mediated nutrient cycles, environmental microbial applications and impacts, and microbial industrial applications.

Measurable Learning Outcomes:
- Describe important characteristics of bacteria, fungi, protozoa, and viruses.
- Assess differences in microbial metabolism, growth and reproduction.
- Classify microbes.
- Identify important groups of pathogenic microorganisms, bodily defenses, mechanisms of spread and symptoms.
- Identify important groups of microorganisms, bodily defense, mechanisms of spread and symptoms.
- Identify important groups of microorganisms used in industrial applications.
- Explain microbial mediated nutrient cycles.
- Describe how microorganisms are used in environmental applications.
Topical Outline (major areas of coverage):

- Overview of microorganisms.
- Bacterial characteristics, metabolism, growth reproduction and important organisms.
- Viral characteristic, metabolism, growth reproduction and important organism.
- Fungal characteristics, metabolism, growth reproduction and important organisms.
- Protozoan characteristics, metabolism, growth reproduction and important organisms.

Recommended maximum class size for this course: 25

Library Resources: Online databases are available at http://www.ccis.edu/offices/library/resources.asp. You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Nathan Means, Ph.D.

Name: 
Signature: 
Date: October 1, 2004

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

Office of Academic Affairs
12/04