

## CUMBERLAND COUNTY COLLEGE

Course: BI 203

Credits: Microbiology

Prerequisites:

BI 101, BI 102, BI 106, or CH 101

Description:

An integrated course with laboratory exercises closely correlated to the lectures covering the characteristics of microorganisms in nature and disease. Standard laboratory techniques in pure culture study, disinfection, and sterilization will be utilized.

Learning Outcomes:

Upon successful completion of this course, students will be able to:

- Describe the role of microorganisms in nature and their unique structure.
- Characterize the metabolic processes of microorganisms and differentiate their growth characteristics.
- Compare and contrast the various treatments devised against microorganisms.
- Describe and characterize the microbial genetics and how they are applied to biotechnology.
- Distinguish among the various roles in nature and characteristics of each of the following microorganisms: bacteria, fungi, algae, protozoans, and other human parasites.
- Characterize viruses, viroids and prions.
- Characterize the principles of disease and epidemiology.
- Characterize microbial mechanisms of pathogenicity.
- Use the scientific method of inquiry, through the acquisition of scientific knowledge.
- Use computer systems or other appropriate forms of technology to achieve educational and personal goals.

Topical Outline:

- The Microbial World and You
- Observing Microorganisms
- Functional Anatomy of Prokaryotic Cells
- Microbial Metabolism
- Microbial Growth
- Control of Microbial Growth
- Microbial Genetics
- Biotechnology and Recombinant DNA
- Biotechnology and Recombinant DNA Continued
- Classification of Microorganisms
- Classification of Microorganisms Continued

- The Prokaryotes
- The Eukaryotes
- Viruses, Viroids, and Prions
- Principles of Disease Epidemiology
- Microbial Mechanisms of Pathogenicity

Text:

Microbiology by Tortora, Funke, and Case; 9<sup>th</sup> Edition; ISBN-10: 0805347909

Academic Integrity:

Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation.

Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a “criminal” offense.

As such, a plagiarized paper or report automatically receives a grade of **ZERO** and the student may receive a grade of **F** for the semester at the discretion of the instructor.

Tutoring & Project Assist:

If you are having difficulty with work in this class tutoring is available through the Center for Academic & Student Success. If you think that you might have a learning disability, contact Project Assist at 856.691.8600 x 1282 for information on assistance that can be provided to eligible students.

**Before Withdrawing From This Course:**

If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) BEFORE withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA, which can limit or eliminate future financial aid in addition to causing academic suspension.