LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS

SPECIAL NOTE:
This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.

TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):

Please check with the LCC bookstore http://www.labette.edu/bookstore for the required texts for this class.

COURSE NUMBER: BIOL 201

COURSE TITLE: MICROBIOLOGY

SEMESTER CREDIT HOURS: 5

DEPARTMENT: Biology

DIVISION: General Education

PREREQUISITE: Recommended BIOL 101 (3 credit hr)
OR BIOL 120 (5 credit hr) BIOL 130 (5 credit hr)

COURSE DESCRIPTION:
This course presents a study of microorganisms and their morphological, physiological, and biochemical characteristic response to the environment as well as their influence on the surroundings. Their relationship to the anatomy and physiology of the human body, aspects of parasitism, infection state, body defenses, and methods of control and prevention of infections will also be studied. Laboratory experiments will be conducted relating to bacterial growth, isolation and pure culture techniques as well as physiological characteristics of different microorganisms.

COURSE OUTCOMES AND COMPETENCIES:
Students who successfully complete this course will be able to:

1. Understand the relationship between microorganisms, the surrounding environment and the importance of microorganisms in nature.

- Understand the importance of microorganisms in nature and historical perspective of microbiology.
- Be able to understand the chemical component of microorganisms, microbial metabolism and growth.

2. Compound light microscope, pure culture methods, and staining, and know the biochemical reactions of different microorganisms.

- Visualize microorganisms using the compound microscope.
- Know how to streak bacteria on different media how to accomplish the pure culture technical.
- Master different staining methods.
- Know the biochemical reactions of different microorganisms and be able to analyze these biochemical reactions for identification of different bacteria.

3. Knowledge about the microbial world, microbial genetics and how to control and inhibit microbial growth.

- Know some eukaryotic organisms, viruses, viriods and prions.
- Know how to control and inhibit microbial growth using physical, chemical means and antibiotics.
- Have an idea about microbial genetic and biotechnology.

4. Understand the different types of interactions between microbes and host.

- Understand the principle of diseases, virulence and infection.
- Understand microbial mechanisms and pathogenecity.
- Understand nonspecific and specific host defense mechanisms.

5. Understand microorganisms and human diseases, interactions and impact of microorganism in the environment.

- Know the microbial diseases of the skin and eyes, nervous system, cardiovascular and lymphatic system, respiratory system, digestive system, urinary and reproductive system.
- Microbial recycling of resources, microbes transforming the environment.