Course Description :

Focuses on the general characteristics, cellular structure, and metabolism of microorganisms. Emphasizes microbial relationships with individual and community health. Includes impact of microbes on human health and disease, microbial pathogenicity, identifying and managing infectious diseases and controlling microbial growth, healthcare associated infections and epidemiology. Studies aseptic culturing techniques with hands-on experience in safe microbiology practices. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week. 4 credits

General Course Purpose:

Biology 150 serves as an introductory science course that exposes students majoring in Health Sciences to the existence and impact of microorganisms inside and outside the human body system on human health. The course has both lecture and laboratory components. Both these components will emphasize on giving a firm understanding to healthcare practitioners about the aseptic techniques that would assist in limiting the spread of infectious diseases.

Course Prerequisites/Corequisites:

BIO 101 or BIO 141

Course Objectives:
Upon completing the course, the student will be able to:

Scientific Literacy

- Evaluate different perspectives, opinions, and statements about biological issues in terms of their logic, content, scientific merit, and biases.

Quantitative reasoning

- Perform accurate calculations, interpret scientific data and graphs, and use results to support conclusions.
- Analyze data collected through experiments in lab. Present and discuss the findings and conclusions derived from data, with chart/spreadsheet and graphs.

Critical thinking

- Discriminate among degrees of credibility, accuracy, and reliability of inferences drawn from given data, determine whether certain conclusions or consequences are supported by the information provided and use problem solving skills.

Introduction to Microorganisms : History of Microbiology, Survey of various Prokaryotic and Eukaryotic and acellular microorganisms, Comparing cell organelles of prokaryotic Vs. eukaryotic cells, Foundations of biochemistry, and macromolecules

- Chart the timeline of the history of Microbiology and how it developed as a science.

- Identify key findings that led scientists to understand how microorganisms shape our planet, our health and society

- Discuss common features of living things and describe microbes that are non-cellular.
- Differentiate between bacteria, arcf* EMC andrk* EMCai oer