

Hagerstown Community College

Master Syllabus

COURSE: BIO 205 Microbiology 4 Credits

DATE: Spring 2018

INSTRUCTOR: C. Dove, M. Jozik, A. O'Brien

COURSE DESCRIPTION:

This course is an introduction to the biology of microorganisms including microbial diversity, structure, metabolism, growth, and genetics. Topics of disinfection, sterilization, immunity, and the relationship to human diseases and the environment are included. Laboratory fee required. Total of 45 hours of lecture and 45 hours of lab. Prerequisite: Eight credits of biology or four credits of biology and four credits of chemistry.

TEXTBOOK:

Microbiology, Principles and Explorations by Jacquelyn G. Black, 9th edition or other current microbiology text as approved by the instructor.

STUDENT LEARNING OUTCOMES:

At the end of this course the student should be able to:

1. Recognize and explain the significant role that microbes play in the world around us.
2. Appreciate the similarities and differences of microbes as compared to higher forms of life.
3. Identify microbes and explain methods of growth and cultivation as well as structural and biochemical differences.
4. Demonstrate an understanding of microbial structure, function, metabolism, growth, genetics, and control - including antibiotic usage.
5. Demonstrate the basic principles of immunology relating to host resistance, antigen-antibody reactions, vaccination, organism virulence and their ability to cause disease.
6. Demonstrate an understanding of the principles involved in epidemiology, infectious disease and a basic appreciation for how microbes cause disease, which diseases they cause, and characteristics that determine the course of the infection. Diseases and their etiologic agent will be noted and discussed by the student.
7. Evaluate the physical and chemical methods of microbial control.
8. Recognize microbial diseases and their control.
9. Explain various methods for controlling microbial growth both in the environment and in the human body through the use of antibiotics, phage therapy and other alternative methods.

MINIMUM CLOCK HOURS REQUIRED FOR THIS COURSE

BIO 205 MICROBIOLOGY	Direct Faculty Contact (class time)	Student work outside of class
Lecture Material (3 credits) + 3 exams	37.5 h	30 h Study for exams
Quizzes	Included above	8 h (quiz prep/taking quizzes)
Chapter worksheets	“ “	15 h
Final Exam, Critical Thinking + Common Assessment	“ “	7 h (exam prep)
Laboratory Class (1 credit)	37.5 h laboratory instruction/activities	15 h Laboratory class prep
Graded Lab unknowns x2 and 4 lab tests	Hours included above	20 h Laboratory report completion
Total Lecture + lab	75 h	95 h

Services for Students with Disabilities: Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530.