

**BIO 197: MICROBIOLOGY**  
**Summer Quarter 2008**

**Instructor:** Dexter Beck, M.S., D.C.

**E-mail Address:** [dbeck@chattcollege.com](mailto:dbeck@chattcollege.com)

**Credit Hours:** 5 (**Lecture Hours:** 4 and **Laboratory Hours:** 3)

**Phone:** 770-528-4494

**Office:** Room B172

**Times:** MW 1-4:30pm

**CRN:10585**

**I. Prerequisites:** Successful completion of BIO 194: Anatomy and Physiology II, with a C or better.

**II. Texts & Materials:**

Nestor E.W., C.E. Roberts, N.N. Pearsall, D.G. Anderson and M.T. Nestor. (2007). *Microbiology: A Human Perspective, Fifth Edition*. Dubuque, IA: McGraw-Hill Publishers.

Laboratory Handouts will be provided in class

**III. Course Description:**

This course introduces the student to the biology of bacteria and other microorganisms. The emphasis is on disease causing organisms, their classification and methods of control. Topics include: bacterial metabolism and genetics; classification of microorganisms; viruses; human interactions with microbes and a survey of disease causing organisms. Hands-on laboratory experiences support classroom learning.

**IV. Competency Areas:**

- A. Identification and classification of bacteria.
- B. Growth and control of microorganisms.
- C. Bacterial metabolism and genetics.
- D. Identification and classification of viruses.
- E. Disease causing organisms.
- F. Laboratory equipment and procedures.

**V. Course Goals/Objectives:** To successfully complete this course the student will:

- A. Identify and classify the different types of microorganisms and viruses.
- B. Describe microbial cell biology and metabolism.
- C. Describe bacterial genetics and the principles of biotechnology.
- D. Describe the structures and reproductive cycles of viruses.
- E. Identify the causative agents for a variety of human diseases.
- F. Demonstrate the proper use of related laboratory equipment.
- G. Demonstrate good (aseptic) laboratory procedures.

**VI. Course Requirements:**

- A. To successfully complete this course the student must fulfill the following:
  - 1. Complete all reading assignments prior to class meeting times.
  - 2. Complete all examinations with a minimum average for all of 70%.
  - 3. Participate in and complete all laboratory exercises.
- B. Course attendance requirements:
  - 1. Students are expected to arrive on time for classes.
  - 2. Students who miss examinations may make up those examinations if they can provide a **verifiable valid** excuse. Excused absences are at the discretion of the instructor. Valid excuses may include serious illness, death in the family etc. An excused absence only allows the student to make up the missed examination, it does however, count toward your total absences.

**VII. Examinations and Evaluation Procedures:**

- A. There will be 5 tests given over lecture material, each worth 100 points. None of these is comprehensive nor cumulative. The format of these tests will be multiple choice, matching and/or true/ false. The schedule for these tests is subject to change.

B. There will be 2 laboratory tests, each worth 100 points. One consists of the identification of an unknown mixture of bacterial organisms to be administered in the middle of the quarter and due at its conclusion. The second laboratory test will be practical in nature concerning procedures and materials encountered in the laboratory setting.

C. An academic performance grade will be given as an average percentage of total points, equal to the following grades according to Chattahoochee Technical College policy: 100 - 90% (A), 89 - 80% (B), 79 - 70% (C), 69 - 60% (D), and less than 60% (F).

D. A work ethics grade will also be given as ascribed by Chattahoochee Technical College. This grade will reflect evaluation of attendance, character, teamwork, appearance, attitude, productivity, organizational skills, communication, cooperation, and respect. The grading scale is as follows: exceeds expectations (3), meets expectations (2), needs improvement (1), and unacceptable (0).

### **VIII. Disability Accommodations:**

Students who need accommodations are asked to arrange a meeting during office hours the during the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with office hours, an alternate time can be arranged. To set up this meeting, please contact me. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an Accommodation Memo but need accommodations, make an appointment with Disability Services at 770-528-4529.

### **IX. Notice to Students Who Stop Attending Classes:**

A. STUDENTS must initiate withdrawal from a course(s) by completing the appropriate form through the STUDENT SERVICES OFFICE.

B. Instructors WILL NOT initiate withdrawal for students who stop attending any course(s). Withdrawal is a STUDENT option.

C. STUDENTS withdrawing from a course(s) after the drop/add period (July 1,2,3 ) through the end of the 5<sup>th</sup> week of the quarter (08/06) will receive a grade of a W

D. STUDENTS withdrawing from a course(s) during the 6<sup>th</sup>, 7<sup>th</sup>, or 8<sup>th</sup> week of the quarter (by 08/27) will receive a grade of a WP or a WF.

E. STUDENTS who have not withdrawn or do not attend class after the end of the 8<sup>th</sup> week of the quarter (08/27) WILL NOT be withdrawn by the instructor and WILL receive the appropriate letter grade (A, B, C, D, F, S, or U).

### **X. Academic Dishonesty:**

A student is subject to disciplinary action by the institution which may include suspension or expulsion for academic dishonesty including cheating, plagiarism, and providing false information to the institution. Note: all forms of academic dishonesty including, but not limited to, cheating on a test, plagiarism, collusion, and falsification of information will be cause for discipline.

Cheating on a test is defined but not limited to the following:

A. Copying from another student's test paper.

B. Using materials during a test not authorized by the person giving the test.

C. Collaborating with any other person during a test without permission.

D. Knowingly obtaining, using, buying, selling, transporting, or soliciting, in whole or in part, the contents of any unadministered or administered test.

E. Bribing any other person to obtain information about tests.

F. Substituting for another student or permitting any other person to substitute for oneself.

### **XI. Plagiarism:**

Plagiarism is defined as the appropriation of any other person's work and the unacknowledged incorporation of that work in one's own work offered for credit.

Collusion is defined as the unauthorized collaboration with other persons in preparing work offered for credit.

**XII. Attendance Policy:**

Students are expected to be punctual and attend all classes for which they are registered. Each student should recognize at the beginning of his/her postsecondary career that a mature acceptance of his/her responsibilities is a requisite for reasonable accomplishment in postsecondary work; this applies particularly in the area of class attendance. Students anticipating an absence or tardiness should contact the instructor in advance or provide notification as soon as possible. It is the responsibility of the student to account for instructional time missed and to make arrangements for make-up work at the convenience of the instructor. If the student does not attend classes, submit assignments, or, when applicable, contact instructors in a timely manner (either in person or by telephone), a failing grade(s) may be issued. If the absence is on the day an examination is administered the student must submit a verifiable documented excuse acceptable to the instructor to be eligible to make-up the missed examination. The examination should then be attempted within one week of the students return to class.

**XIII. Offensive Statements:**

Offensive statements regarding one’s race, sex, creed, national origin, physical disability or mental stability are not appropriate and will not be tolerated. These statements will be considered a violation of the standards of conduct as stated in the current Chattahoochee Technical College catalog.

**XIV. Electronic Devices:**

Electronic devices such as cellular phones, pagers etc., with audible ringers will not be tolerated in the classroom.

**XV. Warranty**

Any graduate of Chattahoochee Technical College who is deficient in a competency identified in state program standard shall be retrained at the request of the employer at no cost to the employer or the employee for tuition or instructional fees. This warranty is valid for two consecutive years following the student’s date of graduation.

**XVI. Tentative Lecture, Laboratory & Test Schedule: (Schedule is subject to changes.)**

<b>Date</b>	<b>Chapter or Laboratory Exercise/Test Schedule</b>
07/02	Chapter 1: Humans and the Microbial World Chapter 3: Microscopy and Cell Structures
07/07	Chapter 4: Dynamics of Prokaryotic Growth Chapter 7: The Blueprint of Life from DNA to Protein Chapter 8: Bacterial Genetics
07/09	Laboratory Exercise: Introductory Laboratory: Unit 2A: The Microscope
07/14	<b>Test 1: Chapters 1, 3, 4, 7, 8</b> Chapter 5: Control of Microbial Growth Chapter 10: Identification and Classification of Prokaryotes
07/16	Laboratory Exercise: Unit 1: Aseptic Technique
07/21	Chapter 11: The Diversity of Prokaryotic Microorganisms Chapter 13: Viruses of Bacteria Chapter 14: Viruses, Prions, and Viroids: Infectious Agents of Animals and Plants
07/23	Laboratory Exercise: Unit 2C, D and E: Microscopic Technique

07/28	<b>Test 2: Chapters 5, 10, 11, 13, 14</b> Chapter 15: The Innate Immune Response Chapter 16: The Adaptive Immune Response
07/30	Laboratory Exercise: Unit 3: Biochemical Characterization ( <b>part I</b> )
08/04	<b>Laboratory Test 1</b> (Unit 4: Bacteria in a Mixed Unknown) Chapter 17: Applications of Immune Responses Chapter 18: Immunologic Disorders
08/06	Laboratory Exercise: Unit 3: Biochemical Characterization ( <b>part II</b> )
08/11	<b>Test 3: Chapters 15 – 18</b> Chapter 19: Host-Microbe Interactions Chapter 20: Epidemiology
08/13	Laboratory Exercise: Unit 5A, B: Gram Positive Cocci and Rods
08/18	Chapter 21: Antimicrobial Medications Chapter 22: Skin Infections Chapter 23: Wound Infections
08/20	Laboratory Exercise: Unit 5C and D: Acid Fast Bacteria and Gram Negative Rods
08/25	<b>Test 4: Chapters 19 -22, 24</b> Chapter 24: Respiratory System Infections Chapter 25: Alimentary System Infections Chapter 26: Genitourinary Infections
08/27	Laboratory Exercise: Unit 6: Control of Microbial Growth
09/01	Holiday(No Class)
09/03	<b>Laboratory Final Practical</b>
09/08	<b>Unknown Due by the end of class.</b> Chapter 27: Nervous System Infections Chapter 28: Blood and Lymphatic Infections
09/10	<b>Final Test: Chapters 23, 25 - 28</b>