



## BIOL 2420 Microbiology (BIOL 2420.088)

Course Syllabus: Spring 2018

*"Northeast Texas Community College exists to provide responsible, exemplary learning opportunities."*

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| Office Hours | Monday | Tuesday | Wednesday | Thursday | Friday | Online              |
|--------------|--------|---------|-----------|----------|--------|---------------------|
|              |        |         |           |          |        | Through Bb or Email |

*The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.*

**Catalog Course Description:** This course covers basic microbiology and immunology. It provides an introduction to historical concepts of the nature of microorganisms, microbial diversity, the importance of microorganisms and acellular agents in the biosphere, and their roles in human and animal diseases. Major topics include bacterial structure as well as growth, physiology, genetics, and biochemistry of microorganisms. Emphasis is on medical microbiology, infectious diseases, and public health.

### Required Textbook(s):

- Cowan, 2015, Microbiology Fundamentals: A Clinical Approach, 2<sup>nd</sup> Edition with Connect
- Publisher: McGraw Hill  
**ISBN Number:** 9781259293177 (this is the ISBN number for the ebook with Connect, if you prefer a paper copy of the book, you may substitute 9781259384554 (loose-leaf) or 9781259629990 (bound) which both come with Connect access.

**Recommended Reading(s):** Appropriate chapters in textbook as assigned

### Student Learning Outcomes:

1. Describe distinctive characteristics and diverse growth requirements of prokaryotic organisms compared to eukaryotic organisms.
2. Provide examples of the impact of microorganisms.
3. Distinguish between mechanisms of physical and chemical agents to control microbial populations.
4. Explain the unique characteristics of bacterial metabolism and bacterial genetics.
5. Describe evidence for the evolution of cells and organelles from early prokaryotes.
6. Understand characteristics of acellular infectious agents (viruses and prions) and cellular infectious agents (prokaryotes and eukaryotes).
7. Describe functions of host defenses and the immune system in combating infectious diseases and explain how immunizations protect against specific diseases.
8. Use and comply with laboratory safety rules, procedures, and universal precautions.
9. Perform basic microbiology procedures including use of light microscope, staining techniques, and aseptic techniques for transfer, isolation and observation of bacteria.
10. Use different types of bacterial culture media and biochemical tests to grow, isolate, and identify microorganisms.

This is an online course in Microbiology. Both lecture and laboratory study materials and assignments will be delivered through the Blackboard Learning Management System at NTCC. You are required to purchase an eScience lab kit to complete the lab component of the course. Students should ensure that they have the appropriate hardware, software, and technical skills for completing all assignments, labs and tests. Be prepared for a fast-paced activity-filled course! There will be work to do almost every day of the week.

### **Lecture Readings, Connect Assignments and Discussions:**

|                              |                                      |
|------------------------------|--------------------------------------|
| Week 1-                      | Chapter 1                            |
| Week 2-                      | Chapter 3                            |
| Week 3-                      | Chapter 4 & 5                        |
| Week 4-                      | <b>Test 1 (Chps. 1, 3, 4, 5)</b>     |
| Week 5-                      | Chapter 7                            |
| Week 6-                      | Chapter 8 & 9                        |
| Week 7-                      | Chapter 11                           |
| Week 8-                      | <b>Test 2 (Chps. 7, 8, 9, 11)</b>    |
| Week 9-                      | SPRING BREAK                         |
| Week 10-                     | Chapter 12 & 13                      |
| Week 11-                     | Chapter 16 & 17                      |
| Week 12-                     | <b>Test 3 (Chps. 12, 13, 16, 17)</b> |
| Week 13-                     | Chapter 18 & 19                      |
| Week 14-                     | Chapter 20 & 21                      |
| Week 15-                     | <b>Test 4 (Chps. 18 - 21)</b>        |
| <b>FINAL WEEK FINAL EXAM</b> |                                      |

### **Evaluation/Grading Policy:**

#### **Lecture Average 70% of final course grade**

The “lecture” component of this course will consist of online homework/quizzes through McGraw-Hill Connect and examinations with the following weight in calculating final lecture average:

15% Assignments (online homework, quizzes and any other assignments by the instructor)

30% Unit Tests 1-4 (taken in Respondus Monitor)

25% Final Test (taken at an approved proctored location)

#### **Lab Average 30% of final course grade**

The “lab” component of this course will consist of online and hands-on laboratory activities through eScience Lab Kit for Microbiology along with two lab practicals:

15% eScience Kit Online and hands-on Labs

15% Lab Practical

Final Grades will be determined as follows:

90.0 --- 100 = A

80.0 --- 89.9 = B

70.0 --- 79.9 = C

60.0 --- 69.9 = D

59.9 and < = F

### Assignments, Unit Tests, Mid-term and Final Exams:

- Homework, quizzes and Learn Smart are assigned using McGraw-Hill Connect. Each assignment or quiz will be due at a specific time in the semester related to the lecture schedule.
- There are 4 unit tests. Each unit test will be taken through Respondus Monitor. You are required to use LockDown Browser with a webcam, which will record you during an online, non-proctored exam. (The webcam feature is sometimes referred to as “Respondus Monitor.” Your computer must have a functioning webcam and microphone. There is a **\$10.00 fee** to use Respondus Monitor payable to Respondus when you first download the program). Read the information in the “Start Here” folder to familiarize yourself with the process for downloading the browser and using the webcam.
- There are 2 lab practicals. The first lab practical will be taken through Respondus Monitor and the final lab practical will be taken at your proctored testing center along with your final exam for the course.
- The final exam is a proctored exam which you must take in person at a college testing center or public library with a proctoring service. Failure to take the final exam will result in a grade of “F” for the course. If you reside in the NTCC service area, you must take the final on campus at the NTCC testing center on the main campus. The testing center is located on the main campus of NTCC in the Student Services Building. The hours of the testing center are: Monday—Thursday 8:00 a.m. to 6:00 p.m. and Friday 8:00 a.m. to 12:00 p.m. If you do not reside in the NTCC service area, you will be asked to contact the instructor the first two weeks of the semester and identify a college testing center (preferred) or public library with an exam proctoring service where you can be proctored while taking this exam. Please be aware that other college testing centers or libraries may charge a fee for you to use their facilities. You will need to provide the physical address, email address and phone number for the proposed proctoring location. The instructor will contact the center to verify the appropriateness of the location for approval. BioSig will provide your instructor with an independent report identifying the IP address of the computer and the internet provider of your proctored test. Proctored exams must be taken using the testing center’s network. Mobile hot spots are not acceptable when taking the final exam.

### Student & College Responsibilities/Expectations:

- Northeast Texas Community College is a “community of scholars.” Please remember that you and all of the students in this class are pursuing very important goals in your lives. As scholars, I expect every student to be courteous to other students and the instructor in all online experiences.
- All colleges and universities must remain diligent in their pursuit of assuring the academic integrity of their courses to maintain their accreditation status with Southern Association of Colleges and Schools and the Texas Higher Education Coordinating Board. The academic integrity of NTCC’s online courses is maintained with the documented use of BioSig, Respondus Monitor and proctored final examinations.
- As your instructor, I will make a conscientious effort to provide you with a variety of teaching and learning formats to help you in your efforts to be successful in microbiology. I deeply care about your learning experience and your success in this course, however that ultimate success does depend largely on **YOU**. Your success can be maximized and your potential achieved by making the commitment to meet these online expectations:

- ✓ Schedule and plan to complete all lecture and laboratory assignments and submit them when they are due. Be sure to print off the calendar to help you keep up with assignment due dates.
- ✓ Be sure to do all of your own work. Collusion and plagiarism are acts of academic dishonesty. Work that is copied and pasted directly from any website is not acceptable in any form on any assignment, lab or test. See the Student Handbook, p. 90 for definitions of collusion, plagiarism, and cheating. Infractions can result in severe grading penalties or failure.
- The last day to drop the course with a grade of W is **Thursday, April 12<sup>th</sup>**. If circumstances require you to withdraw from this course, you must do so by that date. It is the **student's responsibility** to initiate the withdrawal with the registrar's office. **Failure to officially withdraw will result in your receiving a grade of F.**

#### **Other course (lab) requirements:**

- The eScience Lab Kit contains almost all of the materials that you will need. There are a few items that you should be prepared to supply to complete some labs. These include: access to a microwave oven or hot water bath; isopropyl (rubbing alcohol); soil sample; local water samples; disposable plastic pan.
- Lab Reports are graded based on documented evidence of completion of the lab exercise (photos included in your lab report) and successful answering of questions presented. Submitted photos of labs are worth 40% of the lab report grade.

#### **NTCC Academic Honesty Statement:**

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook." The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

#### **ADA Statement:**

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with Shannin Garrett, Academic Advisor/Coordinator of Special Populations located in the College Connection. She can be reached at 903-434-8218. For more information and to obtain a copy of the Request for Accommodations, please refer to the [NTCC website - Special Populations](#).

#### **Family Educational Rights And Privacy Act (FERPA):**

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their

children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.