BIOL 2420.002
Microbiology
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
	11:00am-12:20pm	11:00am-12:20pm	11:00am-12:20pm	11:00am-12:20pm		

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.

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):
Lansing Prescott, John Harley and Donald Klein, 10th Edt.
Microbiology McGraw-Hill, Inc.
Michael Leboffe, Burton Pierce , Photographic Atlas For Microbiology
Laboratory: Morton Publishing Company

Publisher: McGraw-Hill Publisher **ISBN Number:** , ISBN-13 9780077993122
MHID 0077993128

Recommended Reading(s): Text Book

Student Learning Outcomes: Upon successful completion of this course the student will:

1. Describe distinctive characteristics and diverse growth requirements of prokaryotic organisms compared to eukaryotic organisms and provide examples of the impact of microorganisms.
2. Distinguish between mechanisms of physical and chemical agents to control microbial populations.
3. Explain the unique characteristics of bacterial metabolism and bacterial genetics and describe evidence for the evolution of cells and organelles from early prokaryotes.
4. Understand characteristics of acellular infectious agents (viruses and prions) and cellular infectious agents (prokaryotes and eukaryotes).
5. Describe functions of host defenses and the immune system in combating infectious diseases and explain how immunizations protect against specific diseases.
6. Use and comply with laboratory safety rules, procedures, and universal precautions.

7. Perform basic microbiology procedures including use of light microscope, staining techniques, and aseptic techniques for transfer, isolation and observation of bacteria.
8. Use different types of bacterial culture media and biochemical tests to grow, isolate, and identify microorganisms.
9. Communicate results of scientific investigations, analyze data and formulate conclusions using critical thinking and scientific problem-solving skills.

Lectures & Discussions:
Lecture Schedule and Exams:

Jan 16 roll call syllabys
Jan 18 Training Session on Lab Safety
Jan 23. The History and Scope of Microbiology
Jan 25. The History and Scope of Microbiology
Jan 30. The History and Scope of Microbiology
Feb 1 .The Study of Microbial Structure: Microscopy and Specimen Preparation
Feb 6 .The Study of Microbial Structure: Microscopy and Specimen Preparation
Feb 8 Lecture Test # 1 Chapters 1 & 2
Feb 13 .Procaryotic Cell Structure and Function
Feb 15.Procaryotic Cell Structure and Function
Feb 20 Procaryotic Cell Structure and Function
Feb 22 Eucaryotic Cell Structure and Function
Feb 27 Eucaryotic Cell Structure and Function
Mar 1 Lecture test # 2 Chapters 3 & 4
Mar 6 Microbial Nutrition
Mar 8 Microbial Growth
Mar 12-18 Spring break
Mar 20Microbial Growth
Mar 15Microbial Growth
Mar 20 Lecture Test # 3
Mar 22 Chapter 8-Control of Microorganisms by Physical and Chemical Agents
Mar 27 Chapter 8-Control of Microorganisms by Physical and Chemical Agents
Mar 29 Chapter 8-Control of Microorganisms by Physical and Chemical Agents
Apr 3 Chapter 35-Clinical Microbiology
Apr 5 Chapter 35-Clinical Microbiology
Apr 10 Chr apter 35-Clinical Microbiology
Apr 12 Chapter 7 The Viruses: Introduction and General Characteristics
Apr 17 Chapter 7 The Viruses: Introduction and General Characteristics
Apr 19- Lecture Test #4

Evaluation/Grading Policy:

1. Lecture will meet twice a week; meeting for one hour and twenty minutes per lecture.

a.	Four major tests will be given	50% of grade
b.	One comprehensive final	5% of grade
c.	Special assignments and reports	5% of grade
		60%

2. Lab will meet twice a week; meeting for one hour and twenty minutes per lab. However, lab time will be increased occasionally as time is needed to complete necessary lab assignments or procedures.

a.	Daily work	5% of grade
b.	Lab evaluations/tests	10% of grade
c.	Lab research (unknowns)	25% of grade
		40%

3. Final Evaluation

Lecture	60%
Lab	40%
Course Total -	100%

Assignments:

MICROBIOLOGY LABORATORY SCHEDULE

LAB BOOKS WILL BE CHECKED ON A WEEKLY BASIS. ALL QUESTIONS FOR THE EXERCISE COMPLETED MUST BE ANSWERED.

WEEK LABORATORY ASSIGNMENTS
Jan 16 Training Sessions on Lab Safety
Jan 18 Training Session on Lab Safety
Jan 23 Exercise #1: The Microscope
Jan 25 Exercise #2: Handling and Examining Cultures Microbes in the Environment
Jan 30 Completion of exercise #2
Feb 1 Exercise #3: Hanging-Drop and Wet-Mount Preparations
Feb 6 Exercise #4 Simple Stains
Feb 8 Exercise #5 Negative Stains
Feb 13 Exercise #6 Gram Stains
Feb 15 Exercise #7 Acid Fast Stains (hot method)
Feb 20Exercise #8: Acid Fast Stain (cold method)
Feb 22Exercise #9: Spore Stain
Feb 27Exercise #10: Capsule Stain, Flagella Stain
Mar 1 Exercise #10: Capsule Stain, Flagella Stain
Mar 6- 8 Lab Test Lab Exercise- Preparation of Media
Mar 12- 18 Spring break
Mar 20 Lab Exercise- Streak Plate Technique
Mar 22 Lab Exercise- Completion of Streak Plate Technique
Mar 27 Lab Exercise- Differential and Selective media
Mar 29 Fermentation,
Apr 3 Co 27ntinuation of Exercise
Apr 5 Rapid Identification:Enterotubes BBL crystal systems
Apr 10 Continuation of Exercise
Apr 12 Unknown Bacteria Final Week
Each Student will take a safety test and sign a release before continuing in lab.
Unknowns Presented in Proper Manner
* All unknowns will be typed showing procedual data, summary data, bibliography, and any other material that will support your results. All unknowns will be turned in before scheduled date of your finals.

LAB SUPPLIES CHECKLIST

1. Lab Book 0
2. Lab Coat, Apron, or Acceptable Tunic 0
3. Container of Matches 0
4. One Box of Microscope Slides 0
5. Two Rolls of Paper Towels 0
6. One Package of Index Cards 0
7. Labels 0
8. Expo Marker Fine Point 0

Student Responsibilities/Expectations:

Attendance Policy

Regular and punctual attendance at all scheduled classes is required by every student. Students absent, for any reason, are still responsible for lecture materials and any required assignments. There are no excused absences. Excessive absences will ultimately hinder your success in this course. Therefore, it is the responsibility of the student to withdraw from this course before the final withdrawal date to receive a "W". However, your failure to abide by this institutional rule will result in you receiving an "F" for this course.

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."

Academic Ethics

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.