BIO 227 471: Microbiology w/Lab (4778)
Summer/2019, Online

Instructor Contact Information
Instructor Name/Title: Diane Gibson/Associate Professor of Biology

Office Hours: TBA
Office Location: JCC 255, Hazard
Phone Number: 859-428-8424 (Call or Text)
Email Address: diane.gibson@kctcs.edu

Course Description
Introduction to fundamental microbiological principles and techniques emphasizing structural, functional ecological, and evolutionary relationships among microorganisms. Includes laboratory exercises in general microbiology.

Prerequisites
BIO 112 or consent of instructor. Lecture: 3 credits; Laboratory: 2 credits

Start Date: 6-3-19
Midterm/Last Date to Withdraw Without Instructor Permission: 7-1-19
Last Date to Withdraw with Instructor Approval: 6-24-19

Textbook Information and Supplies
Nester’s Microbiology 9th ed. w/nect plus access (McGraw-Hill)
Late Nite Lab, 9781464193750
Amscope, CB 7101S1 Micro Slide & Cover Glass
Amscope, M170C-SL 40X-1000 Dual Microscope
Ez Biorsh, KAP-010 Bacterial Science Kit
Walter Pro, B17107 Prepared Slide Set-Microbial World
Walter Pro, B17111 Prepared Slide Set-Microbiology
Innov Science, IS5011 Innovating Science Gram’s Stain Kit

Course Competencies/Student Learning Outcomes
Upon completion of this course, the student can:
1. Use terminology associated with the study of microorganisms including bacteria, viruses, fungi, protozoans, algae, and helminths.
2. Demonstrate understanding of basic chemistry associated with the functions and metabolic activities of microorganisms.
3. Demonstrate understanding of factors affecting the growth of microorganisms.
4. Demonstrate understanding of principles regarding DNA, protein synthesis, and genetics of bacteria and viruses and principles of genetic technology (gene splicing and biotechnology).
5. Classify organisms using the characteristics of each major group.
6. Associate a specific microorganism with a specific disease.
7. Demonstrate understanding of specific and nonspecific defenses of the body to microorganism infection and the major antimicrobial drug types.
8. Demonstrate understanding of the role of microorganisms in food production, chemical production, agriculture, and seage treatment.
9. Demonstrate understanding of the effects of microorganisms on lifestyles, health, environment, industry, and the economy.
10. Demonstrate understanding of the role of selected microorganisms as agents of biological warfare.
11. Make observations, record data, and critically evaluate information for accuracy, relevance, and importance.
12. Form conclusions from data collected.
13. Demonstrate proper microscopy, culture, and aseptic techniques.
14. Properly dispose of bacterial cultures.
15. Determine the identity of unknown bacteria.
16. Identify microorganisms including fungi, algae, protozoans, and helminths.

General Education Course Competencies/Student Learning Outcomes
Conduct a hands-on project using scientific principles (category experience).
1. Demonstrate an understanding of the methods of science inquiry.
2. Explain basic concepts and principles in one or more of the sciences.
3. Apply scientific principles to interpret and make predictions in one or more of the sciences.
4. Explain how scientific principles relate to issues of personal and/or public importance.

Course Structure, Evaluation, and Grading Methods

Registering for Connect
This semester we will be using a program for homework and course readings called Connect from McGraw-Hill, the publisher of our textbook.

To register for Connect: go to the Blackboard course shell for BIO 225, and then go to the assignments link on the left, you will be taken to the assignments we’re going to do this semester. If you click on one of them, it will take you to the Connect software. It will ask you for your e-mail (please use your school email address and name as it appears on blackboard).

Our connect course web address is:

**Course methodology and grading:** Your grade will be determined based on the percentage you earn out of the total points possible for the course. Points are divided amongst the following categories:

**Exams**
There will be six timed online exams, each worth 300 points. Each exam is cumulative but will focus on topics from the chapters covered since the last exam. The cumulative final exam is exam 6 and will be set up like all previous exams. Exams are 60 questions in multiple choice and true/false format. They are timed at 50 minutes. This is a closed-resource exam.

**Chapter Reading Outlines/Notes**
You will read the assigned chapter and submit your chapter outline/notes for manual grading. Your chapter notes should be 3ish pages long. I want to see enough detail so that I know you spent time reading, but not so much that it becomes impossible to keep up with the course load. An outline should look something like this:

1. Major Topic
a. Point 1  
   i. Detail 1  
   ii. Detail 2  
   iii. Detail 3  
   iv. Detail 4  

b. Point 2  
   i. Detail 1  
   ii. Detail 2  
   iii. Detail 3  

Learnsmart Homework  
In addition to doing homework to reinforce material discussed in class, you will also be asked to do weekly LearnSmart assignments (also through Connect and available on Blackboard). These assignments go along with the reading for the material and helps you identify parts of the chapter that you didn’t understand, so you can specifically go back to those portions and re-read them rather than re-reading the whole chapter. Doing these reading assignments before class discussions and the homework after class should put you in the best position to succeed on the tests and exposure to the material in 3 different formats – reading, class discussion, and application through homework – should ensure that you understand the material and easily recall it in your future classes and when you need it in your future jobs in the real world.

Chapter Quizzes  
After completing the chapter Learnsmart you will complete a chapter quiz with multiple-choice, true/false, and interactive questions. You are able to repeat this assignment as often as you want until the due date. This is a good way to practice for your timed exam.

Chapter Animations  
These are short videos with accompanied multiple-choice questions. These videos put chapter content into a visual and active perspective. These are typically very short assignments to complete but helpful when learning some of the more difficult processes.

Final  
For the proctored final, it is the student’s responsibility to contact their preferred testing center information and work collaboratively with their chosen testing center to set up a time and date to take the closed-resource exam. Students need to forward me with their testing center time and date receipt and must take the initiative to contact me with this information 10 business days before their intended test date will forfeit the chance to take the final which is worth approximately 15% of the grade. It is the student’s responsibility to **schedule the exam on or before 5pm on the exam due date**. This exam will be a 100 questions, multiple choice, computerized, and content-based with a two-hour time limit. “Content-based” means that your questions will be generated based on the topics from the course competencies. **Your final is due before 5pm on July 26th.**

Lab Learning Content
Please review the assignment check sheet for a breakdown of lab assignments and points. Your lab grade will come from your Late Nite Labs virtual lab software, your wet labs, and lab video concept maps and assignments.

Labs contain multiple parts depending on the lab and will contain reports and/or questions to be answered. Some labs have more work, some have less; but you are awarded points for each assignment completed so the labs that have more work associated with them are worth more. **All Labs are due by 5pm on July 24th.**

**Wet Labs (1300 total points possible)**- These labs are completed using the lab supplies you purchased for the course. Once completed you will upload your lab sheet via file attachment. You **must attach a selfie of you completing your lab with your equipment** in the background to earn credit.

**Late Nite Labs (800 total points possible)** - These are a collection of virtual labs designed to cover lab learning objectives. They may take a while to complete, as they are very touchy. I will take the grade you get on the multiple choice quizzes and the lab activity notebook (from you and the virtual lab summary) to calculate the grade. You are only able to take the multiple choice quizzes once.

**NOTE:** **Please use your KCTCS e-mail account to create your Late Nite Labs account and use your name as it appears on blackboard.**

**Concept Map**- Are file attachment type assignments where you will link and describe vocabulary words from the assigned lab videos. I have a video posted in the blackboard shell (under videos) for more information.

**Biochemical Test Worksheets**- This is a file attachment assignment where you fill in the worksheet based on video content and internet research.

**Grading Policy/Scale**

<table>
<thead>
<tr>
<th>Points</th>
<th>Percent</th>
<th>Grade</th>
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<tbody>
<tr>
<td>8595-9550</td>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>8594.9-7640</td>
<td>80-89.9</td>
<td>B</td>
</tr>
<tr>
<td>7639.9-6685</td>
<td>70-79.9</td>
<td>C</td>
</tr>
<tr>
<td>6684.9-5730</td>
<td>60-69.9</td>
<td>D</td>
</tr>
<tr>
<td>5729.9-0</td>
<td>0-59.9</td>
<td>E</td>
</tr>
</tbody>
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**Assignment due dates** - Assignment due dates are not negotiable and late assignments will not be accepted for any reason. This is an online course and you are expected to complete the assignments as outlined below. It is your responsibility to have access to properly functioning computers with up-to-date software and plug-ins.

All Lab work is due before 5pm on **July 24th**
All Coursework including Exam 6 (Final) is due before 5PM on **July 26th**
I grade on a weekly basis and this usually happens on Friday. I do not accept assignments via e-mail because it gets very difficult to keep track of who submitted what. Please e-mail me if you are having issues submitting assignments by clicking on the assignment name in blackboard.

**Class Policies/Procedures**

**Inclement Weather Class Policy/Procedure**
During periods of inclement weather, HCTC will either open at 11:00 or be closed. On days that HCTC open at 11:00 a.m., all courses scheduled **BEFORE 11:00 a.m.**, will be **canceled**. Decisions regarding evening classes will be made by 4:00 p.m. Check local radio, TV stations, or the HCTC website for information. This is an online course so inclement weather does not affect course participation.

**General Class Make-up, Late Assignment Class Policy/Procedure**

Late assignments or exams will not be accepted for any circumstance; therefore, I strongly encourage you to consistently complete work. If you are having issues with your computer or accessing a computer in general, you can contact your campus for information on open computer labs or work at the public library. Technology issues will not be accepted as an excuse for incomplete assignments. It is your responsibility to have access to access to properly functioning internet and computers with up-to-date software and plug-ins.

**Attendance Class Policy/Procedure**

Consistent participation and completion of work is required.

**Withdrawal Class Policy/Procedure**

A student may officially withdraw from any class up to and including the date of midterm with a W grade assigned to the student’s record. After midterm a W grade will be assigned with instructor’s permission at their discretion if contacted before noon on May 1st.

**Accommodations Procedure**

HCTC recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements. In compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, any qualified student with disabilities may request appropriate course accommodations to ensure that full benefits are received and that the instructor is aware and can make the proper adjustments. Students are encouraged to meet with the Disability Services Representative to develop and complete an Accommodations Plan.

Julie Caudill, HCTC Disabilities Services Representative  
Phone: 606-487-3486 and Email: jcaudill0129@kctcs.edu

**Appeals Process**

Always begin the informal process by talking to your instructor. If issues cannot be resolved, then talk with the Dean/Supervisor (see below for contact information) of the faculty member. For information about academic rights, academic offenses, and the student’s formal right to appeal, review the [KCTCS Code of Student Conduct](https://www.kctcs.edu/student-rights-code-conduct).
Dean/Supervisor Contact Information

<table>
<thead>
<tr>
<th>Dean:</th>
<th>Leila Smith</th>
<th>Phone Number:</th>
<th>(606) 487-3504</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus/Office Location/Number:</td>
<td>Lees Campus, Smith Admin Room 101A</td>
<td>Email Address:</td>
<td><a href="mailto:Leila.Smith@kctcs.edu">Leila.Smith@kctcs.edu</a></td>
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Student Services-Adult Basic Education Services / Supplemental Instruction:
https://hazard.kctcs.edu/about/student-life/student-support-services.aspx

Developmental Course Emphasis:
Late assignments or exams will not be accepted for any circumstance; therefore, I strongly encourage you to consistently complete work.

Inside/Outside Classroom Interaction:
See contact information

Children in the Classroom:
N/A

Cell Phone Use:
N/A

Library Information:
https://hazard.kctcs.edu/current-students/student-resources/library/index.aspx

Approved Course Outline:
Posted on Blackboard

Bibliography:
N/A

Assignment/Lab Sheets/Rubrics:
Posted on Blackboard

Additional Syllabus Information:
Review the HCTC Website: (from HCTC Website Click Academics > Syllabus Information)

Print Version of URLs listed in the syllabus:
Academic Calendar: https://hazard.kctcs.edu/education-training/academic-calendar/index.aspx
HCTC Syllabus Website: https://hazard.kctcs.edu/current-students/academic-resources/syllabus_information.aspx
Student Code of Conduct:
https://kctcs.edu/current_students/code_of_student_conduct.aspx