BIOLOGY 310 and BIOLOGY 310L
General Microbiology Lecture and Laboratory
Spring 2022

Course Objective:
This course serves as an introduction to microbiology with a focus on the central role of microbes in the field of biology, the unique metabolic and organismal diversity of microbes, and their role in history from the origin of life to modern times. In addition, work in this course will help you to further develop and refine your skills in critical thinking, analysis, scientific communication, and interpersonal interactions.

Required Texts:  
Brock Biology of Microorganisms, 15th Edition  
Laboratory Manual (Provided on Oaks)
Optional text:  Techniques in Microbiology: A Student Handbook, 1st Edition

Course Meeting places and Times:
Lectures:  T/Th 10:50-12:05pm, Rita 154
Laboratories:  Tuesdays 1:00-4:00pm, 5:00-8:00pm  
Wednesdays 2:00-5:00pm  
Thursdays 5:00-8:00pm  
All labs held in Rita 167

Lecture Specific Learning Goals:
Upon completing this course, you should be able to:
1. Understand microbiology within its historical context, and relate pivotal discoveries and major advances
2. Consider the role of microbes in the evolution of life on Earth
3. Describe structure-function relationships of microbial cell components
4. Understand microbial cell growth and regulation of cell division
5. Describe the mechanisms of regulation of microbial gene expression
6. Relate major pathways of anabolism and catabolism to the role of microbes in their environments
7. Discuss the impact of microbes on human society

Laboratory Specific learning goals
1. Use a microscope knowledgeably and with ease
2. Culture various bacterial species per their physiological needs and environmental adaptations
3. Quantify bacteria from samples including soil, water, and pure cultures
4. Use selective and differential media to identify unknown bacterial cultures

How will the ongoing pandemic effect the classroom?
We are still in a state of emergency and the pandemic will fundamentally shape what the semester looks like, how we inhabit the class, and how we relate to each other and the course material. COVID-19 poses a risk to those that are immunocompromised, the elderly, the young, pregnant individuals and the unvaccinated. You do not know the health or
vaccine status of your classmates. As such, I ask that you take reasonable efforts to protect yourself and those around you that cannot be vaccinated within the College and Charleston area community. If there are many COVID related absences, I will move the course online for the duration of the necessary quarantine period(s).

As the pandemic continues, please remember that not everyone has been impacted to the same degree. Many have lost loved ones and members of their community whereas others have not. Many of you may have had mild COVID symptoms, others might have required long hospital stays and there may be others in our College community that have long COVID. Together we can make this semester as safe, thoughtful, and insightful as we can in light of the ongoing pandemic. As COVID continues to spread and new variants are arising, take personal responsibility to wear masks indoors and while in close contact with other individuals.

Office Hours:
All office hours will be held virtually using zoom.
Wednesday office hours will be from 1:30 - 3:00pm by appointment using this link
https://calendly.com/dr_fullerton/microbiology-office-hours
Monday office hours will be from 3:15-4:45pm using the following zoom info
https://cofc.zoom.us/j/84558421484?pwd=b01lNThqY0pDQ1MvR1FQYXV1ajRIUT09
Meeting ID: 845 5842 1484 Passcode: 320191

If those hours do not work with your schedule, please email me times and days that work for you. I’ll respond with a zoom link scheduled for a time that works for us both.

Lecture Attendance:
Due to the ongoing pandemic, do not attend class if you are not feeling well or have had close contact to a COVID-19 positive individual. If you miss an in-class activity, you must arrange a make-up with me to be completed over zoom. Make-up exams will be provided if there is an emergency at test time, or due a university-sanctioned event, such as participation in a sporting events or academic conferences. If you cannot avoid being gone on an exam day, it is your responsibility to contact me at least one week prior to the scheduled test date.

Course Evaluation & Assessment
Your ability to meet course goals will be determined via your performance on assignments, quizzes, laboratories and exams throughout the semester. Assignments may be altered at the instructor’s discretion during the semester depending on available time and other course constraints. There will be 3 exams throughout the semester and one cumulative final. Assignments that are due to oaks will be accepted up to 3 days past the due date with a 10% reduction in grade for every 24 hours late.

Grading
Please note that grades on Oaks are not your final grade. The Oaks grades will reflect all work done and should be an indicator to you of your progress. Your grade is weighted with 75% from lectures and 25% from labs, with the following grading scale and weigh breakdown
### Lecture Component
- Exams: 33%
- Final Exam: 15%
- Quizzes and assignments: 27%
- Total: 75%

### Lab Component
- Lab Notebook checks: 5%
- Unknown 1: 2%
- Unknown 2: 3%
- Pre-lab quizzes: 3%
- Lab Quiz: 3%
- Human Associated Microbe Report: 3%
- Lab Final: 6%
- Total: 25%

### Course Policies

**Our Classroom Community Strives to be Fully Inclusive:**

I am committed to establishing and maintaining a classroom climate that is inclusive and respectful for all students. Learning includes being able to voice a variety of perspectives, and classroom discussion is encouraged. While students' expressed ideas may vary and/or be opposed to one another, it is important for all of us to listen and engage respectively with each other. I am also committed to a classroom and campus environment free of discrimination of all kinds.

You will be doing assignments with a partner, so feel free to share knowledge and help them out with course material. I will check email frequently during regular working hours and will respond in 24 hours or less on weekdays. I will check email infrequently after 6pm and on weekends, so expect longer wait times for a response.

**Lab Specific Policies**

a. To participate in laboratory exercises, you must have your mask, lab coat and safety glasses. You must wear closed toe shoes while in the microbiology lab. If you wear inappropriate footwear, you will not be allowed to stay in lab. Cellphones are to remain stored for the duration of the laboratory period.

b. For some experiments, you must come in after hours to observe cultures or move them to the refrigerator as indicated in the lab manual.
c. There is to be no talking during the quizzes or practical exams. You are required to remain in the laboratory during any tests and quizzes.

**Laboratory Notebook:**

a. Details on contents and layout of the laboratory notebook are available in the laboratory manual.

b. A *bound* laboratory notebook is required (no spiral notebooks). The pages will need to be numbered and you will need to keep an updated table of contents. You are not required to have a notebook that makes carbon copies. Your notebook will be graded.

c. **Before you come to lab**, read the required laboratory exercises and complete the pre-lab quiz. Copy the materials and methods to your lab notebook. It may be helpful to make brief, numbered lists of steps, and/or drawing a flowchart of the lab exercise(s).

**Laboratory Attendance:**

Students who will miss lab for a university-sanctioned event (e.g. sports, music performance, etc.) need to notify the laboratory instructor no later than one week prior to the lab to be missed so that appropriate arrangements can be made. If you are feeling unwell and must miss lab then it is the responsibility of the student to arrange for a make-up lab. It is not possible to attend the lab virtually or to make up lab virtually due to the nature of the hands-on skills of microbiology.

**Safety:** *Additional safety information will be provided in lab.*

a. Close-toed shoes and a lab coat is required. Gloves are be used while working with stains, hazardous chemicals, and bacterial cultures. Gloves and lab coats are not to be worn outside the lab. Gloves will be provided for you, but you are required to bring a lab coat.

b. Long hair needs to be tied back or put up. This will prevent your hair from catching fire or falling into the bacterial cultures.

c. Wash hands at the beginning the lab period **and** before you leave the laboratory room.

d. Lab benches will need to be cleaned with disinfectant at the beginning of the laboratory period and after you have completed the laboratory exercises.

**College of Charleston Honor Code & Academic Integrity**

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when suspected, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the student’s actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will
appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent.

Students should be aware that unauthorized collaboration is a form of cheating. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor. Students can find the complete Honor Code and all related processes in the Student Handbook at: http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php

**Preferred Name and Pronoun Information:**
I will gladly honor your request to address you by the name and gender pronouns of your choice - mine are she/her/hers. Please advise me of this early in the semester via your college-issued email account or during office hours so that I may make the appropriate notation on my class list. More info can be found here Preferred Name and Pronoun

**Center for Student Learning:**
Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at http://csl.cofc.edu or call 843.953.5635.

**Veterans and Active Duty Military:**
Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, disabilities) are welcome and encouraged to communicate these, in advance if possible, to the instructor

**Special Arrangements:**
The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services / SNAP, located on the first floor of the Lightsey Center, Suite 104. **Students approved for accommodations are responsibility for notifying me**, and for contacting me one week before exam accommodation is needed.

**This course will provide equal access.**
- I am happy to work with all students to ensure that they have equal access to the educational experience of this class. Any student eligible for and needing accommodations because of a disability is requested to speak with the me during the first two weeks of class or as soon as you have been approved for services so that reasonable accommodations can be arranged.
- The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104 (http://disabilityservices.cofc.edu/for-faculty/faqs.php). Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed. Students are also responsible for making
test accommodation one week before the scheduled exam as detailed here http://disabilityservices.cofc.edu/accommodations/alternate-testing-site-ats/index.php

- This College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services/SNAP, 843-953-1431 or me so that such accommodation may be arranged.

Additional campus resources:

Physical & Mental Health Resources
If you find yourself experiencing physical illnesses, please reach out to student health services (843.953.5520). If you find yourself experiencing any mental health challenges (anxiety, depression, stressful life events, sleep deprivation, loneliness, and/or homesickness) please consider contacting either the Counseling Center (professional counselors at http://counseling.cofc.edu or 843.953.5640) or the Cougar Counseling Team (certified volunteers through texting "4support" to 839863 or visit http://counseling.cofc.edu/cct/index.php). You can also visit both on campus on the 3rd floor of Robert Scott Small. These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.

Food & Housing Resources
If you are facing challenges in securing food and housing please contact the Dean of Students for support (http://studentaffairs.cofc.edu/about/salt.php). You can visit the Cougar Pantry in the Stern Center (2nd floor), a student-run food pantry that provides dry-goods and hygiene products at no charge to any student in need. For more information about food and housing assistance that is available to you, visit http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php