FALL 2022
Biology 101

Concepts and Applications in Biology I
Section 04

About this course
This is a non-science majors’ course, which will provide a background for understanding and evaluating contemporary topics in biology and societal/environmental issues. The course emphasizes cellular and molecular concepts, including biochemistry, cell structure and function, respiration, photosynthesis, genetics and molecular biology. An understanding of methods, history, and dynamic nature of science will also be emphasized. A case study based approach will be used to learn much of the material in this course. We will apply biological concepts to real-life problems.

(You do not need the MindTap access that comes with the bookstore package, and an older addition will suffice for this course. BIOL 101L is a required co-requisite lab.

Instructor: Miranda McManus (she/her)
Email: mcmanusm@cofc.edu
Office: 65 Coming St., Room 213 (at the top of the stairs)
Office hours: Reach out to me via email to schedule a time to meet.

This class is fully asynchronous online, which means that there are no required class meeting times and all of the content is maintained online for you to work at your own pace within the deadlines. You may contact me with personal questions at any time by email; however, if your questions are not personal, please post on the Course Lounge discussion board on OAKS so that the rest of the class can benefit from the answer. If at any time you would like to meet and talk in real time, email me to set up a private synchronous chat on OAKS or a Zoom meeting.

The files in this course are primarily accessible through Google Drive. Files in Google Drive are only available using your College of Charleston Google account. To access the files, you MUST be signed in to Google using your CofC account information.

Test dates

Test I
Sept. 11th – 13th
This test will be on the material from Module 1. It will include an introduction to biology and sustainability, the chemical basis of life and biological macromolecules, and the structure and function of cells (chapters 1-4).

Test II
Oct. 20th – 22nd
This test will be on the material from Module 2. It will include the processes of photosynthesis and cellular respiration, DNA structure and function, and the processes of transcription and translation (chapters 5-9).

Test III
Dec. 1st – 3rd
This test will be on the material from Module 3. It will include the processes of mitosis and meiosis, the basics of stem cell biology, and an introduction to genetics (chapters 11-14 and supplementary information on stem cells).

This test will be on the material from Module 2. It will include the processes of photosynthesis and cellular respiration, DNA structure and function, and the processes of transcription and translation (chapters 5-9).

Test III
Dec. 1st – 3rd
This test will be on the material from Module 3. It will include the processes of mitosis and meiosis, the basics of stem cell biology, and an introduction to genetics (chapters 11-14 and supplementary information on stem cells).
Required technology

For this class, you will need a computer with high-speed internet access, sound card, decent speakers, a webcam, a microphone (do not attempt to complete this course using your phone).

Important information about lab

This course has a required laboratory component that is offered as a separate class (BIOL 101L). This lab is a corequisite for this class. Be sure to purchase the BIOL 101 Lab Manual from the bookstore prior to your first lab.

Emergency info

If you have technical difficulties regarding hardware/software, please contact the Helpdesk (843-953-3375 or helpdesk@cofc.edu). If you are having trouble accessing Course Content, please contact me through the Course Lounge discussion board.

If you encounter specific hardware or network problems that prohibit you from completing an assignment on time, contact me immediately via email. Problems with technology are not an excuse for not completing your work! You are taking an online course and are expected to be proficient enough with technology for it not to be a hindrance.

If you experience recurrent technical problems that prohibit you from completing multiple assignments, you may be asked to re-enroll in the course at a future date.

Learning outcomes

Upon completing this course, students will demonstrate basic knowledge and understanding in each of the following content areas as is covered in class, as well as demonstrate the ability to apply this knowledge to real-life situations:

- The chemical and physical properties of life
- Cell form & function
- Energetics, metabolism, and photosynthesis
- The cell cycle
  - Mitosis and cell reproduction
  - Meiosis and sexual reproduction
- Mendelian genetics / Patterns of inheritance
- Human Inheritance
- The molecular basis of inheritance
- DNA and protein production
- Some aspects of biotechnology

Please read the syllabus addendum posted on OAKS to learn more about how this science sequence (BIOL 101/102 and labs) satisfies the general education requirement.
This course will be sustainability-related. We will discuss sustainability in this course as it applies to much of our biological study and will do so with consideration to the five pillars of sustainability, which include not only environmental, economic, and social systems (as part of the “triple bottom line”), where we will focus, but also personal and political systems. Upon completing the course, students should be able to identify policies and practices that have led to unsustainability and be able to synthesize information from two or more of the systems from the triple bottom line to address a sustainability problem.

Science Literacy

In this course, my goal is not only to help you learn the basics of biology, but it is also to help you increase your level of scientific literacy. It is important to understand how science works and what it contributes to our society, and it is crucial that all of us understand how to discern credible sources of information. So throughout this course, we will also spend some time learning what it means to be scientifically literate, and you will have an opportunity to apply some of these concepts through assignments.

Online discussion

There will be an online discussion board so that you can ask questions as you work through the material in this course called the Course Lounge. This is where you should post any questions or comments from which the whole class could benefit from either the question or the response. I encourage all of you to answer one another’s questions, and I will step in if something is incorrect. You should all subscribe to this discussion board so that you are notified when someone posts. Hopefully, we can generate some good, helpful discussion online.

Grading

Assignments (including discussions) will constitute 20% of the final grade.

Quizzes will make up 20% of the final grade.

The three tests will count 50% total (~16.67% each).

The final project will count 10%.

The instructor reserves the right to adjust the final grade based on lack of participation in group activities.
Online communication

Instructor response times
Discussion posts: 24 hours
Email: 24 hours
This is what I strive for, but occasionally I might miss or forget to respond to a message. If you have not heard back from me within this time frame, please reach out to me again.

(Except on weekends. Allow until 8 PM on Monday for a response to any communication over the weekend, unless there is a test. I will most likely respond a lot sooner than this though.)

Peer interaction
Interaction with your peers is essential to your success in this course. Some of the tools you will use to interact with me and with one another may not be familiar to you. Therefore, it is imperative that you visit the “Communication Tools and Expectations” section under Start Here in Content on OAKS before you start delving into the course material. This will help you to understand the level of interaction that is expected from you will offer the opportunity to become acquainted with the various tools. Your participation in discussions and interactive activities will be graded.

Netiquette
It is important to remember to be respectful to one another when interacting in an online community. Always reread your post and think how is may be construed by others before you click “post.” Please refrain from typing in all caps as this is the online equivalent of shouting.
Preferred names and pronouns

I will gladly honor your request to address you by the name and gender pronouns of your choice. 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.

Food and housing insecurity

Many CofC students report experiencing food and housing insecurity. If you are having difficulty affording groceries or accessing sufficient food to eat every day, or if you do not have a safe and stable place to live, please contact the Dean of Students for support (http://studentaffairs.cofc.edu/about/salt.php). You can also go to http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php to learn about food and housing assistance that is available to you. In addition, 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. There are also many resources off-campus. The Dean of Students can help connect you with these resources. Furthermore, please notify me if you are comfortable in doing so. This will enable me to provide connections to any resources of which I may be aware and help me to understand the challenges you are facing as a student.

Accommodations for students with disabilities

The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services/SNAP. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me at least one week before any accommodation is needed.

Academic dishonesty

Guidelines for this course will follow the College of Charleston Undergraduate Catalog policies for Academic Integrity and the Honor Code, Student Code of Conduct, and Classroom Code of Conduct.

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

*Students should be aware that unauthorized collaboration—working together without permission—is a form of cheating—this includes collaborating with classmates or other individuals on online tests.*

Unless the instructor specifies that students can work together on an assignment, quiz, and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance.

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
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<td>Intro to Biology and Sustainability</td>
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<td>Building Blocks of Life</td>
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There will be NO cumulative final exam for this class. There will be a final project in lieu of the final exam.
Schedule

Module 1: Aug, 23rd – Sept. 13th (Test I available Sept. 11th – 13th)
Module 2: Sept. 14th – Oct. 22nd (Test II available Oct. 20th – 22nd)
Module 3: Oct. 23rd – Dec. 3rd (Test III available Dec 1st – 3rd)

No final exam. You will have a final project in lieu of a final exam. Details will be provided in Module 3.

Each module will have a “Timeline” under content on OAKS to keep you on track with lectures. The timeline does not have all of the necessary details for assignments. Full assignments are posted under the checklists for each module. Due dates for assignments, discussions, and tests are not suggested; they are firm.

Tests

Tests will be given online in OAKS. They will be heavily application-based. It is not enough to memorize the material; you must understand it. The tests will be from 75 to 90 minutes in duration. Once you sit down to take the test, you must complete it within the given time frame in one sitting. You will have three full days within which to take each test, from 12:01 AM the first day until 11:59 PM the third day. There are NO excuses to miss a test. Please make sure you have a reliable computer with a reliable internet connection before you sit down to take your tests—if possible hardwire in to the internet—and make sure you are in a good testing environment where

Community engagement and extra credit

It is important that as good citizens you engage yourself in the local community. Because of this, I offer extra credit opportunities that encourage good citizenship and community engagement. I will post about these options on the OAKS news feed later. These will be the only opportunities for extra credit. Please do not ask me for other extra credit.