

# **BIOLOGY 111:**

## Introduction to Cell & Molecular Biology



### **Course Instructor:**

Dr. Heather Fullerton in the HOV Alvin exploring deep-sea hydrothermal vents.

### **Textbook:**

Biology 2<sup>nd</sup> edition by OpenStax  
<https://openstax.org/details/books/biology-2e>



### **Office Hours:**

I will be available by appointment on Thursdays from 2:00 - 4:00pm and an additional time to be determined by student availability. You will need to schedule an appointment using this link  
[https://calendly.com/dr\\_fullerton/virtual-office-hours](https://calendly.com/dr_fullerton/virtual-office-hours)

### **What can you be expected to learn in this course?**

- Ability to identify the different biological molecules and their functions in living organisms.
- Describe structure-function relationships of cellular components.
- Demonstrate knowledge of the mechanisms of information flow in a cell.
- Describe mechanisms of energy flow and transformation in biological systems, including photosynthesis, cellular respiration and fermentation processes.
- Demonstrate an understanding of the processes underlying cellular reproduction and development.

### **What is the format of this course?**

Course content will be delivered in an online and asynchronous format. This means you will watch videos and lectures, complete assignments and take exams all on oaks.  
<https://lms.cofc.edu>

### **How will my learning be evaluated?**

There will be four exams that will be worth a total of 50% of your grade. The other half of your grade will be based on assignments (25%) and weekly quizzes (25%). Exam and assignment dates are listed in our course schedule. Most assignments will be handed in via the oaks Dropbox. Each

assignment Dropbox will include instructions and due dates. Assignments will be accepted up to 3 days past the due date with a 10% reduction in grade for every 24 hours late.

Your final letter grade will be based your overall percent score in the course

		<b>A</b>	>93	<b>A-</b>	90-92
<b>B+</b>	87-89	<b>B</b>	83-86	<b>B-</b>	80-82
<b>C+</b>	77-79	<b>C</b>	73-76	<b>C-</b>	70-72
<b>D+</b>	67-69	<b>D</b>	63-66	<b>D-</b>	60-62
<b>F</b>	<59				

### **What kind of assignments can I expect?**

Here's a brief list, more details will be provided the week these assignments are due.

Study Guides: You will create a document that highlights the content to be covered on the exam.

Exam evaluations: You will reflect on each exam to understand what type of mistakes you made and how those can be avoided in the future.

Social media: There are many scientists and biological researchers on various social media platforms. For this assignment, you will explain how you found that individual or institute and what content sparked your interest.

Biology in the news: You and a partner will evaluate a news article on specific topics for their relevance to biology and how what you're learning in class relates to each article.

Biology in entertainment: Many movies and shows use biology but you and a partner will evaluate if the biology is used correctly.

Profile of a Biologist: Biology is a natural science, but scientist have described all we know to date. You and a partner will find a scientist from a specific time frame and describe their contributions to the field of biology

Office hour check-ins: Since we are a fully online course, I would like to meet and chat with you. Therefore, you will be required to schedule an office hour appointment at least three times this semester.

### **Besides office hours, where can I get help learning this material?**

#### **Center for Student Learning:**

I encourage you to utilize the Center for Student Learning's (CSL) academic support services for assistance in study strategies and course content. They offer tutoring (*including a new walk-in Science Tutoring Lab*), Supplemental Instruction, study skills appointments, and workshops. 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.

#### **Supplemental Instruction:**

Our section has Supplemental Instruction, which is collaborative learning with a peer biology coach. It is for everyone and is not remedial.

<http://csl.cofc.edu/supplemental-instruction/>

The program attempts to improve student performance by providing regularly scheduled out-of-class study sessions facilitated by an SI leader. Sessions are scheduled 3 times per week for 1 hour each. SI Leaders are trained in facilitating collaborative learning activities and study skills/learning strategies. Through pre-planned structured SI Sessions, SI Leaders provide guided study sessions to cover the most difficult class topics being discussed.

### **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 respectfully with each other. I am also committed to a classroom and campus environment free of discrimination of all kinds.

### **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

### **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.

### **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 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.

## **What are some other campus resources that are available to me?**

### **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>

Additional resources are available

- [Preferred Name and Pronoun Information](#)
- [On Campus Gender Inclusive facilities](#)
- [College of Charleston Reporting Portals](#)
- [National Resources for Faculty & Staff](#)
- [GSEC Reports](#)
- [Documenting LGBTQ Life in the Lowcountry](#)
- [College of Charleston Quality Enhancement Plan \(QEP\)](#)
- [Articles about CofC and LGBTQ+ Issues](#)

### Tentative Course Schedule

This is subject to change, especially if there are hurricanes with a mandatory evacuation notice. Assignments and Assessments will be due on Fridays at 11:59pm unless otherwise noted.

#### Week 1 (August 25 - 28)

Topics	Readings	Assignments	Assessment
Course overview	Syllabus	Social Media	Overview quiz
The study of life	Chapter 1	Survey	

#### Week 2 (August 31 - September 4)

Topics	Readings	Assignments	Assessment
Biology & the Cell	Chapter 4.1-4.3	Biology in the News	Week 2 Quiz
Biological Chemistry	Chapter 2.1-2.2	Survey	

#### Week 3 (September 7 - 11)

Topics	Readings	Assignments	Assessment
Biological Chemistry	Chapter 2.3	Office hour check in	Week 3 Quiz
Genetics & DNA	Chapter 14.1-14.2	Profile of a Biologist	

#### Week 4 (September 14 - 18)

Topics	Readings	Assignments	Assessment
DNA & RNA	Chapter 3.1, 3.5	Study Guide	Exam 1

#### Week 5 (September 21 - 25)

Topics	Readings	Assignments	Assessment
Proteins	Chapter 3.4	Biology in the News	Week 5 Quiz
Central Dogma	Chapter 15		

#### Week 6 (September 28 - October 2)

Topics	Readings	Assignments	Assessment
Lipids	Chapter 3.3	Office hour check in	Week 6 Quiz
Passive & Active transport	Chapter 5	Exam 1 Evaluation	
Origins of Life			

#### Week 7 (October 5 - 9)

Topics	Readings	Assignments	Assessment
Cell structure & function	Chapter 4.4-4.5	Profile of a Biologist	Week 7 Quiz
Enzymes & Energetics	Chapter 6		

#### Week 8 (October 12 - 16)

Topics	Readings	Assignments	Assessment
Respiration	Chapter 7.1-7.5	Study Guide	Exam 2

**Week 9 (October 19 - 23)**

Topics	Readings	Assignments	Assessment
Photosynthesis	Chapter 8	Office hour check in	Week 9 Quiz
		Social Media	

**Week 10 (October 26 - 30)**

Topics	Readings	Assignments	Assessment
DNA Replication & Repair	Chapter 14.3-14.6	Biology in Entertainment	Week 10 Quiz
Decoding DNA	Chapter 17.2-17.3		

**Week 11 (November 2 - 6)**

Topics	Readings	Assignments	Assessment
Cell Cycle & Mitosis	Chapter 10.1-10.2	Biology in the News	Week 11 Quiz
Meiosis	Chapter 11		

**Week 12 (November 9 - 13)**

Topics	Readings	Assignments	Assessment
Heredity	Chapter 12	Study Guide	Exam 3

**Week 13 (November 16 - 20)**

Topics	Readings	Assignments	Assessment
Regulation of Gene Expression	Chapter 16	Biology in Entertainment	Week 13 Quiz

**Week 14 (November 23 - 27) Thanksgiving week**

Topics	Readings	Assignments	Assessment
Biotechnology	Chapter 17.1 & 17.4	Survey	

**Week 15 (November 30 - December 4)**

Topics	Readings	Assignments	Assessment
Review	TBD	Office hour check in	
		Profile of a Biologist	

**Reading Day (December 7)****Finals (December 8 - 14)**

TBD