

# BIOLOGY 111- Introduction to Cell and Molecular Biology

## Fall 2015

**COURSE OBJECTIVES-** *Introduction to Cell and Molecular Biology* (BIOL 111) is a foundation course for science majors emphasizing the concepts of structure and function in biological systems at the molecular and cellular levels. Topics include biochemistry, biochemical and molecular evolution, cell function, respiration, photosynthesis, genetics and molecular biology.

**SPECIFIC LEARNING OUTCOMES-**

1. Students will be able to identify the different biological molecules and their functions in living organisms
2. Students will become familiar with the diversity, structure, and function of cellular organelles
3. Students will comprehend how living organisms acquire energy from the environment and how energy is converted into different forms through processes of photosynthesis, cellular respiration, and fermentation
4. Students will demonstrate an understanding of cell division including both mitosis and meiosis
5. Students will demonstrate understanding of the basics of Mendelian genetics
6. Students will demonstrate an understanding of the mechanisms of DNA replication, RNA transcription, and RNA translation

**INSTRUCTOR-**

Seth Pritchard

Office: Harbor Walk West, room 205

Lab: Harbor Walk West, room 216

Tel: 953-5995

Email: pritchards@cofc.edu

Research website: [http://pritchards.people.cofc.edu/pritchard\\_website/Welcome.html](http://pritchards.people.cofc.edu/pritchard_website/Welcome.html)

**CLASS MEETING TIMES-** Lecture is Tuesdays and Thursdays from 11:20-12:35 in room 217 Harbor Walk West. Attendance at lecture is required! Be advised that there is usually a negative linear relationship between final course grades and number of absences (i.e., your final grade in the class can be predicted quite reliably from the number of absences).

**OFFICE HOURS-** To be announced and by appointment.

**Co-REREQUISITE-** BIO111 Lab.

**SUPPLEMENTAL INSTRUCTION-** College of Charleston offers supplemental instruction (SI) for courses with especially high attrition rates (i.e., 25% or more of enrollees typically earn grades of D, F, or must withdraw). There are only 10 courses at CofC that fit into this category! That means BIOL 111 is considered one of the most difficult courses on campus! Your SI instructor is **Samuel McCauley**, a senior BIOL major who earned an A in 111. Samuel will provide more information about how this program will work during class. The SI program is provided by the Center for Student Learning. *I encourage you to utilize the Center for Student Learning's (CSL) academic support services for assistance in study strategies, speaking & writing strategies, and course content. 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.*

**REQUIRED TEXT-** Textbook - Biological Science 5th edition (2014) by Scott Freeman et al. Addison-Wesley, Benjamin Cummings & Prentice Hall

**GRADING-**

**EXAMS-** There will be four exams spaced more or less evenly throughout the semester. They will carry equal weight (100 points each); the final exam will be comprehensive (and will be given during finals week) but will emphasize topics covered after Exam III. Exams will be mostly in multiple choice format but may also include some short answer/discussion questions. Much of the exams will be in SCANTRON format so you **MUST BRING #2 PENCILS TO ALL EXAMS!!**

**QUIZZES-** There will be 5 or 6 quizzes/homework assignments during the semester. These will be worth 25 points each. Only the best 4 quiz scores will count (the lowest will be dropped, therefore there will be absolutely NO MAKEUP QUIZZES/HOMEWORK assignments).

**POLLEV-** We will have in-class quizzes administered in class during lectures. These will be given using polleverywhere. The questions given during the semester with pollev will be the equivalent to one quiz/homework assignment mentioned above. This pollev quiz grade will be calculated as: total points received/(1/2 of the total available points). In other words if you have 30 quiz questions and you get them all correct, your quiz grade would be  $30/15 = 2$  or 200%. You would receive 50 points out of a possible 25 (this is a good bit of extra credit!).

**SUMMARY:** 4 exams:  $4 \times 100 = 400$  points  
4 quizzes/homework assignments:  $4 \times 25 = 100$   
Pollev quizzes = 25  
TOTAL POINTS = 525

Final grades will be determined as the % of total points that you have earned throughout the semester as follows:

Grades will be assigned as follows:

93-100	A	73-76	C
90-92	A-	70-72	C-
87-89	B+	67-69	D+
83-86	B	63-66	D
80-82	B-	60-62	D-
77-79	C+	0-59	F

**COLLEGE OF CHARLESTON HONOR CODE AND ACADEMIC INTEGRITY**

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.

Incidents where the instructor determines 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 XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the X to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission--is a form of cheating. 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.

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>

---

## TENTATIVE LECTURE SCHEDULE\*

Week/Day	Topic	Readings
Aug 25, 27	Introduction Chemistry	Chap 2
Sept 1, 3	Water and Life Organic Macromolecules	Chap 2
Sept 8, 10	Proteins Proteins	Chap 3
Sept 15, 17	Nucleic Acids <b>EXAM I</b>	Chap 4
Sept 22, 24	Carbohydrates Lipids and Membranes	Chap 5 Chap 6
Sept 29, Oct 1	Cell Structure Cell Structure	Chap 7
Oct 6, 8	Enzymes Cellular Respiration	Chap 8 Chap 9
Oct 13, 15	Cellular Respiration <b>EXAM II</b>	Chap 10
Oct 20, 22	FALL BREAK Photosynthesis	Chap 10
Oct 27, 29	Photosynthesis Cell Cycle	Chap 10 Chap 12
Nov 3, 5	Cell Cycle- Cancer Meiosis	Chap 12 Chap 13
Nov 10, 12	Mendelian Genetics <b>EXAM III</b>	Chap 14
Nov 17, 19	DNA replication Central Dogma- how genes work	Chap 15 Chap 16

Nov 24, 26

Transcription and Translation  
THANKSGIVING BREAK

Chap 17

Dec 1, 3

Transcription and Translation  
Regulation of Gene Expression

Chap 17  
Chap 18/19

Dec 10 (12-3 PM)

**EXAM IV- FINAL**

---

\*This schedule is likely to change.