



PCB 3023
Molecular Cell Biology
Fall 2015



Course Description

During this semester we will examine the biology of the cell. We will study its structure and function from the molecular level to the different sub-cellular components, and the regulation of different biological processes. Major topics will include genome structure and dynamics, organelle structure and function, metabolism, neurobiology, signal transduction pathways, the cell cycle, and cancer. Certain relevant topics covered in Genetics might be reviewed briefly but will not be discussed in depth. Therefore, only students who have already completed PCB 3063 or an equivalent should take this course.

Instructor:

Dr. Walter Sotero-Esteve

Office: Bio 202 B

E-mail: wsotero@ucf.edu

Phone #: 407-823-4848

Class Section: 0001 (84271)

Class Times & Room:

MoWeFr 12:30-1:20, BA1 119

Instructor's Office Hours:

TuTh 10:30-12:30

Teaching Assistant: *Andrew Dakkak*

Office hours: Tu 3-4 & We 1:30-3:30, Bio 202 B

References

Textbook: Essential Cell Biology, 4th edition, by Alberts *et.al.* Garland Science, 2013. Available at the UCF Bookstore.

Supplemental materials: all lecture notes with figures will be posted on webcourses.ucf.edu (the "Files" section of your PCB3023-15Fall 0001 course).

Grading and Exam Schedule

There will be four regular exams plus a comprehensive final exam. All exams will consist entirely of multiple-choice questions. Each exam will be worth 75 points. You will receive a score of 0 for any exam that you miss. Make-up exams may be given under special circumstances, but the instructor will ultimately decide the merit of each case. All exam scores will be posted on webcourses.ucf.edu. The lowest of your *five* exam scores will be dropped and will not count toward your final grade. For example, if you take the first four exams and do not take the final exam, you will receive a score of 0 for the final exam but that score will be dropped and will not count toward your final cumulative score. The following formula will be used to calculate your final cumulative score and grade: sum of your *four* highest raw exam scores/3. (Use the raw exam scores as posted on [webcourses](http://webcourses.ucf.edu), not the percentage scores.) Results ending in .6 or a higher decimal round up to the next whole number. The following grading scale will be applied: 90-100: A, 80-89: B, 70-79: C, 60-69: D, 0-59: F. The score of the online Practice Quiz (see the "Attendance" section on page 2) will not count toward your final grade. There will be no additional exams or assignments.

Exam 1: September 21

Exam 3: November 6

Final Exam: December 11,

Exam 2: October 14

Exam 4: December 7

10-12

Calendar and Schedule of Lecture Topics for the Fall 2015 Semester

The Fall 2015 semester begins on August 24th and ends on December 7th.

There will be no class on September 7th and on November 11th & 27th.

<u>Topics</u>	<u>Book Chapters</u>
Introduction to cells	1
Molecules in cells	2
Proteins	4
The eukaryotic chromosomes	5
DNA repair, recombination, and rearrangements	6
Molecular mechanisms of cell differentiation	8
The evolution of genes and genomes	9
Membrane structure	11
Membrane transport & neurobiology	12
Energy in biochemical reactions	3
Respiration and biosynthesis	13-14
Internal membranes and secretion	15
Cell communication	16
The cytoskeleton	17
The cell division cycle	18
Apoptosis and tissue renewal	20
Cancer	20

Attendance and Academic Integrity

All faculty members are required to document students' academic activity at the beginning of each course. In order to comply, please take the **Practice Quiz** on Webcourses by the end of the first week. *Failure to do so will result in a delay in the disbursement of your financial aid.*

Your instructor will not keep record of student attendance in class, but attending the lectures is strongly encouraged. The topics to be discussed in class may not be limited to those found in the textbook, and not all sections from the textbook chapters will be covered in class. *Only the topics covered in class will be included in the exams.* Please show respect for the instructor and your classmates by arriving on time to class and by staying until the lecture is over. As a courtesy to everyone in the classroom, please silence your phones and any noise-making devices during lectures and exams. All exams will be offered during regular class times. If you arrive late on any exam day, you will be allowed to take the exam but you will be required to finish by the scheduled time. However, *once the first student has finished the exam and left the room, no other students will be allowed in to begin the exam.* You may not have any visible communication devices with you during exams. Please choose appropriately between right and left-handed desks.

As a UCF student, you are expected to follow the standards of conduct established in the *Golden Rule Student Handbook* (goldenrule.sdes.ucf.edu). No disruptive behavior or disrespect to the instructor or to your classmates is tolerated. Promoting or engaging in academic dishonesty in any form (*cheating* or *enabling cheating*) will be penalized. Do not write the answer letters on the side of the exam pages. This will be considered enabling cheating and will carry an automatic four-points deduction from your exam score. Any violations to the standards of conduct may result in judicial action, which could result in expulsion from the University. At a minimum, violations of these rules may result in a record of the infraction being placed in your file.

You are responsible for knowing all course rules and policies. The instructor has the ultimate authority to determine the correct interpretation of the contents of this syllabus.