



**PCB 3023**  
**Molecular Cell Biology**  
Fall 2013



**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*  
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Phone #: 407-823-4848

**Class Section:** 0001 (85286)

**Class Times & Room:**

MoWeFr 12:30 PM - 1:20 PM, CB1 104

**Instructor's Office Hours:**

TuTh 12 - 1 PM, Fr 11 AM - 12 PM

**Teaching Assistant:** James Pursglove

Office hours: TuTh 10 - 11:30 AM

**References**

*Textbook:* Essential Cell Biology, 3<sup>rd</sup> edition, by Alberts *et.al.* Garland Science, 2010. Available at the UCF Bookstore. You may also purchase or rent the e-book version at <http://store.vitalsource.com/show/978-0-2038-2820-5>.

*Website:* <http://sotero.cos.ucf.edu/pcb3023>. All lecture notes with figures will be posted here as PPT files.

**Grading**

There will be four regular exams plus a comprehensive final exam, all of them consisting 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. Exam scores will be posted at [webcourses.ucf.edu](http://webcourses.ucf.edu). There will be no additional exams or assignments. 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 choose not to take the final exam, you will receive a score of 0 for the final 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 exam scores/3. Results ending in .6 or a higher decimal round up to the next whole number. A standard curve will apply: 90-100: A, 80-89: B, 70-79: C, 60-69: D, 0-59: F.

**Exam Schedule**

Exam 1: September 16

Exam 2: October 11

Exam 3: November 4

Exam 3: December 2

Final Exam: December 6, 10-11:30

## Calendar and Schedule of Lecture Topics for the Fall 2013 Semester

The Fall 2013 semester begins on August 19<sup>th</sup> and ends on December 2<sup>nd</sup>. There will be no class on September 2<sup>nd</sup>, November 11<sup>th</sup> & November 29<sup>th</sup>.

<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
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
Secretion	15
Cell communication	16
The cytoskeleton	17
The cell division cycle	18
Apoptosis, tissue renewal, and cancer	20

### Attendance

Although the instructor will not keep record of student attendance, coming to the lectures is strongly encouraged. The lecture PPT files online do not include many notes and diagrams that will be presented in class. The topics to be discussed in class may not be limited to those found in the textbook, and not all sections from the reference book chapters will be covered in class. *Only the topics covered during class will be included in the exams.* If you arrive late on 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 maintain an updated profile at <https://ecommunity.ucf.edu/ecommunity/> that includes a [knights.ucf.edu](mailto:knights.ucf.edu) email address. The instructor may need to notify you by email in case of an emergency class cancellation or any schedule update.

### Policy on Academic Conduct

As a UCF student, you are expected to follow the standards for conduct established by the University in the *Golden Rule Student Handbook*. No disruptive or distracting behavior is allowed during classes or exams. No form of disrespect to the instructor or to your classmates is tolerated. Promoting or engaging in academic dishonesty in any form (cheating, copying from neighbor, plagiarism, etc.) is not tolerated. Any form of disruptive behavior or academic dishonesty may result in judicial action, which could potentially 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. For more information, read about student rights and responsibilities and rules of student conduct in the *UCF Golden Rule* at <http://www.goldenrule.sdes.ucf.edu>.

*Please show respect for the instructor and your classmates by arriving to class on time and by staying until class is over.* As a courtesy to everyone in the classroom, please silence your phones or any other noise-making devices during lectures and exams.

The instructor has the ultimate authority to determine the correct interpretation of the contents of this syllabus.