Cell Biology | PCB 4023 | Spring 2017 | U02

Instructor: Amy Saldana-Caboverde, Ph.D.
Class Meeting Time & Location: Tu & **Th** 8:00am – 9:15am, Academic Health Center 3, Room 110
Office: OE 236
Office Hours: Mo 10:30am – 12:30pm, **Tu** 10:00am – 12:00pm, **Fr** 2:00pm – 4:00pm
Email: asaldana@fiu.edu (please include "PCB 4023" in the subject)
Course Website: See Blackboard

Course Description & Learning Outcomes

Cell Biology is a required course for undergraduate students majoring in Biology and Marine Biology. The purpose of this course is to ensure that as Biology and Marine Biology students you are familiarized with the structure and function of cells, and that you are able to understand the molecular mechanisms guiding cellular processes and responses to the environment. Although we will not be able to discuss all cellular mechanisms in detail, the topics we will discuss include: the basic properties of cells; bioenergetics and enzyme kinetics; the structure and function of the plasma membrane and cellular membrane systems; DNA replication and repair; and cancer biology, among others. By the end of the course, as a student, you should be able to:

- Have a clear understanding of cellular components and processes
- Understand how cells interact with their environment
- Understand the cellular basis behind several human pathologies
- Have a working knowledge of the methods used by scientists to study cell biology, and interpret the findings of primary literature
- Critically evaluate the legitimacy of claims from scientists/non-scientists

Prerequisites

You are expected to have completed and passed Genetics (PCB 3063) and General Chemistry 2 (CHM 1046)

Course Materials:

Required Text: Cell and Molecular Biology – Concepts and Experiments. Gerald Karp. 8th Edition. Wiley ISBN: 978-1-118-88614-4

Additional Readings: These will be posted on Blackboard. Please bring copies of the assigned readings to class so that you will be able to participate in the class discussion and assignment.

iClicker: See Blackboard for purchasing options. Although it is possible to use a smartphone as a clicker, many students have reported this feature to be defective; consequently, an iClicker device is required. If you forget your iClicker at home on a particular day you may use your smartphone, but please beware that your answers may not be recorded (affecting your grade).

Attendance

You are expected to attend class regularly, to arrive on time, and to remain in class until the end of the period. In order to get the most out of this class, it is imperative that you attend and take good notes. Doing so will help you master the material, and serve as a guide when preparing for exams. You are responsible for all material covered in class, as exams will include material not directly addressed in your textbook. We will also have a series of iClicker questions as well as in-class assignments; make-ups will not be allowed, except in the case of an excused absence as a result of an emergency.

Emergencies: Emergencies are unforeseeable and unavoidable events that preclude you from being able to attend class. Emergencies include:

- Serious illness/hospitalization

- Death of an immediate family member
- Car accident

You will be required to provide documentation (i.e., doctor's note, copy of death certificate, or police report) in order to be excused and be able to make-up an assignment.

Grading Policy

Exams: There will be 4 exams and a cumulative final exam during the semester. The exams will cover the class lectures as well as the assigned readings (textbook chapters and additional readings). Each exam will be worth 20% of your final grade. I will drop your lowest score of the first 4 exams; however, the final exam is required. Given the size of our class, there will be no make-up exams. Exams will consist of a combination of multiple choice questions, fill in the blank, and true/false questions. Please be prepared to provide either your Panther ID card or a Florida driver's license on the day of the exam. If for any reason exam dates or the material covered in an exam have to be adjusted, you will be given at least one week's notice in class and via Blackboard.

In-Class Assignments: There will be 2 in-class assignments throughout the semester. These assignments will consist of short-answer questions based on scientific articles, which will be posted on Blackboard at least a week prior to the day of the assignment. Questions will be projected during class; and you will have the entire class period to work on the assignment. Please read the articles ahead of time, and bring them to class on the day of the assignment.

iClicker Questions: There will be a series of clicker questions throughout each lecture. These questions are designed to test your comprehension of the material, and better prepare you for exams. You will be able to discuss the answers with your classmates before making your selections. I encourage you to be thoughtful during your discussions. You will receive 1 point for each correct answer, and 0.5 points for incorrect answers. Clicker questions will count toward 10% of your final grade. Although we will have clicker questions during 20 of the lectures, I will only count your 16 best days toward your final grade. You will have one week to purchase and register your clicker through Blackboard. Clicker questions will begin on Tuesday, January 17th.

Grade Breakdown:

Three Best Exams	20% 20% 20%
Cumulative Final Exam	20%
In-Class Assignments (2)	10%
Clicker Questions (16 best of 20)	10%
TOTAL	**100%**

Grading Scale:

Letter Grade	Range
A	≥92
A-	89-91.9
B+	86-88.9
B	82-85.9
B-	79-81.9
C+	76-78.9
C	70-75.9
D	60-69.9
F	≤59.9

Make-Ups: As previously noted, no make-up exams will be given. You will have the opportunity to drop your lowest exam grade, but you must take the final exam. You will be able to make-up in-class assignments provided that you have an excused absence. Please refer to policy on emergencies.

Incomplete (IN) Grades: In the case of extreme circumstances arising from reasons beyond the student's control (examples include: accident, death of an immediate family member, serious illness), an incomplete (IN) grade may be given at the instructor's discretion (documentation will be required). IN grades will not be given prior to the Drop date. In order to receive an IN grade, a student must have completed at least half of the assigned course work and have a passing grade at the time of the incident. The course must be completed within two terms; otherwise, the student will automatically receive a failing grade.

Blackboard

All lecture notes, reading materials, and raw scores for assignments and exams will be posted to Blackboard. Lecture slides will be posted at least one day prior to class so that you may bring these with you to take notes if you like. In addition to in-class announcements, students will also be notified of any changes to the lecture/exam schedules via Blackboard.

Class Rules and Academic Conduct

Class Rules:

In order to promote an environment conducive to learning, please adhere to the following common-sense rules:

- *Cell phone use:* Cell phones are not allowed during class, please keep them silenced/off. If you are expecting an emergency phone call/message, you must notify me BEFORE class begins.
- *Computers:* Although I encourage students to take handwritten notes, you may use your laptop in class to take notes. Please refrain from web surfing/social media/Amazon/etc. Not only is this a poor use of the class time you have already paid for, but it is also disruptive to your fellow classmates.
- *Audio/video recording & photography:* Audio recording is allowed, but please NO video recording/photography, as all material will be posted on Blackboard.
- *Posting class material:* Posting of class lecture notes and course materials to the internet is not allowed.
- *Disruptive Behavior:* It is everyone's responsibility to maintain a professional environment that promotes learning, minimizes distractions, and protects students'/instructor's rights. Students who fail to adhere to the standard code of conduct set forth by the instructor and the FIU Student Handbook may be subject to disciplinary action in accordance to the FIU Student Handbook.

Academic Honesty: The purpose of this course, and of a college education in general, is to provide you with the knowledge you will need as a professional, and to empower you to think independently. Cheating is counterproductive to this purpose, disrespectful to your colleagues, and will not be tolerated. How you conduct yourself now is an indication of the kind of professional (physician, dentist, pharmacist, nurse, scientist) you will be in the future. Any instances of cheating will be dealt with according to FIU's academic misconduct policies, which can be found at: http://academic.fiu.edu/polman/sec2web.htm#two-forty-four.

Sexual Harassment: Sexual harassment violates student and faculty rights and will not be tolerated. FIU's sexual harassment policy can be found at: http://hr.fiu.edu/uploads/file/EOP/Sexual_Harassment_Policy_as_of_02-10.pdf

ADA Accommodation Statement: Students with documented disabilities as per the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973 (PL 933-112 Section 504) may request accommodations (physical or academic) by contacting the Disability Resource Center (tel. 305-348-3532, TTY/TDD 305-348-3852). The student is also responsible for contacting the instructor as soon as possible such that reasonable accommodations can be made.

Date	Day	Topic	Reading
Jan 10	Tues	Introduction, Studying Cells	Chapters 1 & 18
Jan 12	Thurs	Studying Cells, Stem Cells and Replacement Therapy	Chapters 1 & 18
Jan 17	Tues	Macromolecules of the Cell	Chapter 2
Jan 19	**Thurs**	**In-Class Assignment** Last day to drop *without* a DR	**Additional Reading Material (Blackboard)**
Jan 24	Tues	Bioenergetics	Chapter 3
Jan 26	Thurs	Enzymes	Chapter 3
Jan 31	**Tues**	**Exam 1**	**Chapters 1, 2, 3, and 18 (partial)**
Feb 2	Thurs	Plasma Membrane Structure	Chapter 4
Feb 7	Tues	Plasma Membrane Transport	Chapter 4
Feb 9	Thurs	Plasma Membrane Potential	Chapter 4
Feb 14	Tues	The Mitochondrion	Chapter 5
Feb 16	Thurs	Extracellular Matrix and Cell Adhesion	Chapter 7
Feb 21	Tues	Intracellular Compartments and Transport	Chapter 8
Feb 23	Thurs	Intracellular Compartments and Transport	Chapter 8
Feb 28	**Tues**	**Exam 2**	**Chapters 4, 5, 7, and 8**
Mar 2	Thurs	Cytoskeleton	Chapter 9
Mar 7	Tues	Cell Motility	Chapter 9
Mar 9	Thurs	Cell Signaling	Chapter 15
Mar 14		**Spring Break!**	
Mar 16		**Spring Break!** Last day to drop 3/20	
Mar 21	Tues	Cell Signaling	Chapter 15
Mar 23	Thurs	Apoptosis	Chapter 15
Mar 28	**Tues**	**In-Class Assignment**	**Additional Reading Material (Blackboard)**
Mar 30	**Thurs**	**Exam 3**	**Chapters 9, 15 and Additional Material**
Apr 4	Tues	DNA Replication and Repair	Chapter 13
Apr 6	Thurs	Cell Cycle	Chapter 14
Apr 11	Tues	Cancer Biology	Chapter 16
Apr 13	Thurs	Cancer Biology Stem Cells and Cancer	Chapter 16 Additional Reading Material
Apr 18	**Tues**	**Exam 4**	**Chapters 13, 14 & 16 & Additional Material**
Apr 20	Thurs	Final Exam Review	
Apr 25/27		**Final Exam**	Chapters 1, 2, 3, 4, 5, 7, 8, 9, 13, 14, 15, 16, and 18 (partial)

This syllabus and schedule are subject to change