

Cell Biology | PCB 4023 | Summer 2017 | U01C

Instructor: Dr. Amy Saldana-Caboverde

Syllabus is subject to change

Class Meeting Time: Mo & We 8:15am – 10:00am

Class Location: Rafael Diaz-Balart Hall, Auditorium 1100

Office: OE 210

Office Hours: Mo 10:30am – 1:00pm & Th 10:00am – 12:30pm

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 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). Knowledge from these courses will be assumed.

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 to Blackboard. Please bring copies of the assigned readings to class so that you will be able to participate in the class assignments.

iClicker: You may purchase an iClicker device at the FIU Bookstore. 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 the mobile REEF polling application (with an active registration) on 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.

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.

Grading Policy

Grade Breakdown:

Three Best Exams (3 Out of 4)	18%
(the lowest non-cumulative exam score is dropped)	18%
	18%
Cumulative Final Exam	19%
In-Class Assignments (3)	12%
Clicker Questions (10 best of 13)	15%
TOTAL	100%

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 non-cumulative exam will be worth 18% of your final grade, and the final 19%. I will drop your lowest score of the first 4 exams; however, the final exam is required. Although each of the first 4 exams will not be cumulative in nature, you may be asked to synthesize material learned in previous units.

Exams will consist of approximately 40-44 multiple choice 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.

Make-up Exams: Given the class size and since your lowest exam grade is dropped, there will be no make-up exams for the non-cumulative exams. If you are unable to take the final exam as a result of an emergency, you will be given a make-up exam as long as you are able to provide valid documentation. Although there may be circumstances that may prevent you from giving prior notification for missing the final exam, you should email me ASAP with the reason and documentation, so that proper accommodations can be made.

NOTE: please see below for descriptions of what constitutes an emergency and the forms of accepted documentation)

In-Class Assignments: There will be 3 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 one hour to work on the assignment. Please read the articles ahead of time, and bring them to class on the day of the assignment. Each assignment will count toward 4% of your final grade and there will be an opportunity to earn up to 1% extra credit (toward your final grade) for each 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. Although some questions are meant to be answered individual, for most questions you will be allowed to discuss the answers with your classmates before making your selections. You will receive 1 point for each correct answer, and 0.5 points for incorrect answers. Clicker questions will count toward 15% of your final grade. Although we will have clicker questions during 13 of the lectures, I will only count your 10 best days toward your final grade. You will have one week to purchase and register your clicker through Blackboard. Please verify during the second week that your clicker scores are visible to you in the Blackboard "Grade Center." Although we will have clicker questions during the first week of class, these are meant to give you an idea of the types of questions you will see throughout the semester, and will not count toward your grade. **Clicker questions that will count toward your grade will begin on Monday, May 15th. Make sure you register your iClicker before then.**

NOTE: Clicker questions cannot be made up because answers are provided during class.

Grading Scale:

Letter Grade	Range
A	100% - 93%
A-	92.9% - 89%
B+	88.9% - 87%
B	86.9% - 82%
B-	82.9% - 79%
C+	78.9% - 77%
C	76.9% - 70%
D	69.9% - 60%
F	59.9% and below

Final grades will be assigned according to the scale indicated above and will not be rounded-up.

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. **Please Note:**

- Official documentation will be required
- IN grades will not be given prior to the drop date or after the course has ended.

- 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.
- An unfortunate event, such as the death of a family member, does not automatically guarantee that you will be granted an incomplete for the course. Each case will be carefully evaluated and your overall performance will be taken into account when making a decision.
- The course must be completed within two terms; otherwise, the student will receive the grade he/she would have earned without being given credit for any incomplete assignments (this will likely be a failing grade).

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, etc.) 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 93-112 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.

Schedule

Date	Day	Topic	Reading	Clicker?
May 8	Mon	Introduction, Properties of Cells, Euk vs. Prok Stem Cells and Replacement Therapy	Chapters 1 & 18 (partial)	Optional
May 10	Wed	Cell Biology Techniques	Chapters 18 (partial)	Optional
May 15	Mon	Macromolecules of the Cell <i>Last day to drop <u>without</u> a DR</i>	Chapter 2	Yes
May 17	Wed	Bioenergetics and Enzymes	Chapter 3	Yes
May 22	Mon	Exam 1	Chapters 1, 2, 3, and 18 (PARTIAL)	No
May 24	Wed	In-Class Assignment	Additional Reading Material (Blackboard)	No
May 29	Mon	Memorial Day Holiday (NO CLASS)	N/A	N/A
May 31	Wed	Plasma Membrane Structure & Transport	Chapter 4	Yes
Jun 5	Mon	Plasma Membrane Transport & Potential Extracellular Matrix & Cell Adhesion	Chapter 4 Chapter 7	Yes
Jun 7	Wed	Extracellular Matrix & Cell Adhesion	Chapter 7	Yes
Jun 12	Mon	In-Class Assignment	Additional Reading Material (Blackboard)	Yes
Jun 14	Wed	Intracellular Compartments & Transport (I) Intracellular Compartments & Transport (II)	Chapter 8 Chapter 8	Yes
Jun 19	Mon	Exam 2	Chapters 4, 7, and 8	No
Jun 21	Wed	The Cytoskeleton	Chapter 9	Yes
Jun 26	Mon	Brief Overview of the Mitochondria Cell Signaling	Chapter 5 Chapter 15	Yes
Jun 28	Wed	Cell Signaling & Apoptosis <i>Last day to drop <u>with</u> a DR</i>	Chapter 15	Yes
Jul 3	Mon	Exam 3	Chapters 5 (PARTIAL), 9, and 15	No
Jul 5	Wed	DNA Replication and Repair	Chapter 13	Yes
Jul 10	Mon	In-Class Assignment	Additional Reading Material (Blackboard)	No
Jul 12	Wed	Cell Cycle	Chapter 14	Yes
Jul 17	Mon	Cancer Biology	Chapter 16 (Will only be included in the final)	Yes
Jul 19	Wed	Exam 4	Chapters 13 & 14	No
Jul 24	Mon	Interactive Review Session	N/A	Extra Credit
Jul 26	Wed	Cumulative Final Exam	Chapters 1, 2, 3, 4, 5, 7, 8, 9, 13, 14, 15, 16 & 18	No

PLEASE NOTE

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Please consult Blackboard for the latest version.*