

Course Syllabus

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Cell Biology | PCB 4023 | U02



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General Information

Instructor: Dr. Saldana

Class Meeting Time: Tu & Th 9:30am – 11:15am

Class Location: Academic Health Center 3 (AHC-3) Room 110

Office: OE 210

Office Hours: M 11:30am – 1:30pm & Th 2:00pm – 5:00pm*

Email: Preferred: [Canvas](#), alternate: [asaldana@fiu.edu \(mailto:asaldana@fiu.edu\)](mailto:asaldana@fiu.edu)

*PLEASE NOTE: Office Hours will be as follows on the following days:

Thursday, June 14th: 9am-11:00am & 4:15-5:15PM

Thursday, June 21st: 9am-11:00am & 4:15-5:15PM

Thursday, June 28th: 9am-11:00am & 4:15-5:15PM



Course Description & Learning Outcomes

At their core, all diseases result from defects in cellular function or from cell death. The elucidation of the human genome has greatly increased our ability to pinpoint the genetic defects associated with disease; however, simply knowing which gene or genes are associated with a disease is not sufficient for understanding the etiology of diseases and for developing effective therapies. Understanding how genetic alterations affect cellular function is necessary for developing and testing new therapies. Knowledge of cell biology in the

context of disease is also essential for understanding diseases that are not caused by genetic alterations, but by infectious agents. The main goal 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

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 diseases
- 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)
- General Chemistry 2 (CHM 1046).

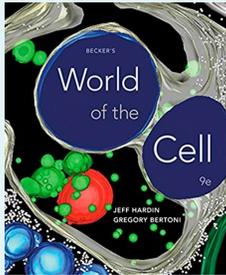
Knowledge from these courses will be assumed.



Course Materials

Textbook

Becker's World of the Cell, 9th Edition. Pearson. ISBN: 978-0-321-93492-5 **(Required)**



Additional Reading

Some of the assigned chapters are from a different textbook (Essential Cell Biology). These are placed under course reserve with the library and you can access them electronically by clicking on the link provided in the schedule.

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. Although you may use the mobile REEF polling application (with an active registration) on your smartphone, please beware that problems with the application have been reported in the past.



How will you succeed?

Come to class prepared. You can do this in one of two ways: (a) read the assigned pages (this is the best way to prepare), or (b) review the figures and read figure legends prior to coming to class. Doing this will help you remember and understand the material much better than attending the lecture with a blank slate.

Go over your notes after class. Reviewing your notes right after class will help you retain the information. It will also make you aware of important points you may have missed or are confused about, and allow me the opportunity to help you with sufficient time.

Communicate. If you are not doing as well as you would like, please seek help early on in the semester. If you wait until the end of the semester to email me about your grade, there is little, if anything, I can do to help you then.



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.



Canvas

All lecture notes, reading materials, and scores for assignments/exams will be posted to Canvas. Canvas will also be used to communicate any changes to the class schedule; however, you will also be notified of any changes during class. If you are new to Canvas, please take some time to familiarize yourself with the interface.

For more information on how to use Canvas, click [here](#)

If you encounter any technical difficulties, please contact [FIU LMS Support Services](http://lms-help.fiu.edu/) (<http://lms-help.fiu.edu/>).



Grading Policy

Grading Scale

Letter	Range %	Letter	Range %	Letter	Range %
A	100% - 93%	B	<87% - 83%	C	<77% - 70%
A-	<93% - 89%	B-	<83% - 79%	D	<70% - 60%
B+	<89% - 87%	C+	<79% - 77%	F	<60%

Final grades will be assigned according to the scale indicated above and will not be rounded-up. Please do not ask whether you can get a grade bump, grade bumps are unfair to other students, so the answer to that question is emphatically NO. Finally, please do not ask whether you can turn in extra credit to increase your grade. Extra credit opportunities are outlined under the assignments section, and will be equally provided to all students. You will be assigned the grade you earned for the course as per the scale specified above.

Grade Breakdown:

Three Best Unit Exams (Best 3 Out of 4)	18% each
Cumulative Final Exam	18%
In-Class Assignments (3)	12%
Clicker Questions (17 best days of 20)	16%
TOTAL	100%

**Exams, Assignments & Make-ups**

In-Class Assignments: There will be 3 group in-class assignments throughout the semester. These assignments will consist of short-answer questions based on scientific articles or sections from the textbook. The assigned reading will be posted/announced on Canvas at least one 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/assigned textbook pages ahead of time. 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 (3% total). **Please note: if you arrive more than 15 minutes late on the day of an in-class assignment, you will need to work on the assignment individually.**

Make-ups: You will be able to make-up in-class assignments provided that you have an excused absence. Please refer to the policy on emergencies.

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. For these 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 16% of your final grade. Although we will have clicker questions during 12 of the lectures (not including the first week), I will only count your 9 best days toward your final grade, so this component of your grade is relatively simple to earn if you show up to class.

You will have one week to purchase and register your clicker through Canvas. Please verify during the second week that your clicker scores are visible to you in the Canvas "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 13th. Make sure you register your iClicker before then.**

Make-ups: There are no make-ups for clicker questions because answers are provided during class; however, as specified above, your 3 lowest clicker scores will be dropped to account for unforeseen circumstances. It is your responsibility to check your clicker points online within a week of these posting to Canvas. This is done so that you can make sure that your clicker is logging in your answers. This allows the instructor to fix any small technical issues. After that one week, there's nothing that the instructor can do if a student's clicker wasn't logging in points.

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 exam 18%. I will drop your lowest score of the first 4 exams; however, the final exam is required. Missing a single mid-term exam due to an emergency will not hurt your grade, but please be aware that missing 2 or more exams earns an automatic grade of "F" in the

course.

Unit exams will consist of 42 multiple choice questions, while the final exam will consist of 60 multiple choice questions. Although each of the four unit exams will not be cumulative in nature, you may be asked to synthesize material learned in previous units, in preparation for the final exam.

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 Canvas.

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 unit 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 must email me within 48 hours of the missed exam with the reason and appropriate documentation, so that proper accommodations can be made. **Please be aware that although your lowest non-cumulative exam grade will be dropped, missing 2 or more exams earns an automatic grade of "F" in the course.***

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



Emergencies

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

- Serious illness/hospitalization
- Car accident in which you were directly involved
- Death of an immediate family member

You will be required to provide documentation (e.g., doctor's note [Note: NOT an R.N.'s note], copy of death certificate, police report) in order to be excused and be able to make-up the final exam or an assignment. The documentation provided must be a valid and verifiable written letter signed by a professional or some other type of irrefutable proof.

Examples that do not constitute an emergency:

- Having a mild cold
- Getting stuck in traffic
- Oversleeping
- Scheduling a routine doctor's appointment (i.e. not related to an emergency) on the day of an exam/assignment

Although some of these are unfortunate circumstances, they are not emergencies and will not be treated as such.



Incomplete Grades

In the case of extreme circumstances arising from reasons beyond your control (please, see description of emergencies above), an incomplete (IN) grade may be given at the instructor's discretion. Please Note:

- Official documentation will be required (NO exceptions)
- **IN grades will not be given prior to the drop date or after the course has ended.**
- In order to receive an IN grade, you 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.

- If granted an incomplete, the course must be completed within two terms; otherwise, you will receive the grade you would have earned without being given credit for any incomplete assignments (this will likely be a failing grade).



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. We will have a short break during most classes for students to use the restrooms, check messages/calls, etc.
- **Computers:** Although I encourage students to take handwritten notes, because [research](https://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away) [↗](https://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away) (<https://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away>) suggests these are more effective, 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 Canvas.
- **Posting class material:** Posting of class lecture notes and course materials to the internet is not allowed and is considered an infringement of copyright law, as images from textbooks are the property of the publisher.
- **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 Conduct

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 and plagiarism are 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> [↗](http://academic.fiu.edu/polman/sec2web.htm#two-forty-four) (<http://academic.fiu.edu/polman/sec2web.htm#two-forty-four>). In addition to cheating, please remember that lying to a faculty member to obtain an unfair advantage is also consider academic misconduct and grounds for expulsion from the university.

Sexual Harassment: Sexual harassment violates student and faculty rights and will not be tolerated. FIU's sexual harassment policy can be found in the [FIU Student Handbook](#) [📖](#).



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, so that reasonable accommodations can be made.



Email Etiquette

Please feel free to email me if you have any questions or concerns. I will try to respond within 24-48 hours, but please keep in mind that I may not be able to respond right away if I receive your email in the evening or over the weekend. If you have questions about the material presented in lecture, it is preferable that you come to office hours. If you wait until the day before an exam to contact me about a doubt/question regarding the material for the exam, I may not see your email until the next day.

If you have a general question about due dates or assignments, you can also post your question to the Canvas Chat (see course menu) or the [General Discussion Board](#). If your question/concern is of a personal nature (i.e. illness, grades), please contact me directly. In order to ensure that your email receives a timely response, please make sure to:

- **Include your name** (this is particularly important if you do not use Canvas to contact me, as your name may not appear associated with your email)
- Include a relevant subject heading (**Please DO NOT just hit reply to the last email/announcement you received from me**).
- Include **PCB 4023 in the subject heading** to ensure your email does not end up in my spam/junk folder
- **Use Canvas email** whenever possible.



Letters of Recommendation

I am happy to write letters of recommendations for students who earned a good grade (A- or better) in at least one of my courses. Nevertheless, keep in mind that earning a good grade in the course does not guarantee that I can write a letter for you. If you did not participate in class and never attended office hours, I will not have anything to say about you, since I do not know you, thus I will not be able to write you a letter.

All requests for letters of recommendations must wait until after the final grades for the course are posted (unless you have taken another class with me and have done well in that class). Please keep in mind that I will need at least a month's notice to be able to provide you with a letter, and will require the following from you:

- a copy of your unofficial transcript
- your curriculum vitae or resume
- a statement of purpose (for medical and dental school applicants)
- information about how/where to submit your letter.
- anything that can help me make a stronger case for my recommendation

To get an idea of the importance of asking letters of recommendations from faculty who actually know you, I recommend you take a look at the perspectives and advice of students admitted to the University of Michigan Medical School (click [here](https://medicine.umich.edu/medschool/education/md-program/md-admissions/faqs/been-there-done-amcas) [↗](https://medicine.umich.edu/medschool/education/md-program/md-admissions/faqs/been-there-done-amcas) (<https://medicine.umich.edu/medschool/education/md-program/md-admissions/faqs/been-there-done-amcas>)). You will find a common thread among the best advice these medical students provide for those who are thinking of applying to medical school.



Schedule

Date	Day	Lecture	Topic	Chapters	Reading
May 7	Mon	1	Introduction (REVIEW) & Methods	1, 4	pp. 1-18, 77-83
May 9	Wed	2	The Chemistry of the Cell (REVIEW)	2	pp. 21-40
			Macromolecules of the Cell - I	3, 4	pp. 43-71, 101

May 14	Mon	3	Macromolecules of the Cell - II	3, 4	pp. 43-71, 101
			Bioenergetics	5	pp. 104-124
May 16	Wed	4	Enzyme Kinetics	6	pp. 127-148
May 21	Mon		In-Class Assignment 1	-	See Canvas
May 23	Wed		EXAM 1 (Lectures 1 - 4)		
May 28	Mon		MEMORIAL DAY HOLIDAY	-	-
May 30	Wed	5	Aerobic Respiration & Mitochondria	ECB 13, 14	<u>ECB pp. 419-427, 430-433, 447-468</u>
June 4	Wed	6	The Plasma Membrane	7	pp. 153-171, 176-181
June 6	Mon	7	Transport Across Membranes	8	pp. 185-211
June 11	Mon		In-Class Assignment 2	-	See Canvas
June 13	Wed		EXAM 2 (Lectures 5 - 7)		
June 18	Mon	8	The Endomembrane System	4, 12	pp. 89-93, 315-329, 331-344
June 20	Wed	9	The Endomembrane System, Autophagy	12, 20	pp. 315-29, 331-43, 611-12
			The Cytoskeleton I	13, 14	pp. 351-375, 377-402
June 25	Mon	10	The Cytoskeleton II	13, 14	pp. 351-375, 377-402
June 27	Wed	11	Cell Adhesion & The Extracellular Matrix	15	pp. 405-425
July 2	Mon		EXAM 3 (Lectures 8 - 10)		
July 4	Wed		INDEPENDENCE DAY HOLIDAY		
July 9	Mon	12	Cell Signaling I	23	pp. 685-712
July 11	Wed	13	The Cell Cycle & Apoptosis	24	pp. 715, 718-719, 729-743
July 16	Mon	14	Cancer	26	pp. 778-806
July 18	Wed		EXAM 4 (Lectures 11 - 13)		
July 23	Mon		In-Class Assignment 3	-	See Canvas
July 25	Wed		FINAL EXAM (Lectures 1 - 14)		

This syllabus and schedule are subject to change

Course Summary:

Date	Details	
Sun May 13, 2018	 Introductions (https://fiu.instructure.com/courses/13958/assignments/140476)	due by 11:59pm
	 Profile Picture (https://fiu.instructure.com/courses/13958/assignments/140477)	due by 11:59pm
Mon May 21, 2018	 In-Class Assignment 1 (https://fiu.instructure.com/courses/13958/assignments/140469)	due by 11:15am
Wed May 23, 2018	 Exam 1 (https://fiu.instructure.com/courses/13958/assignments/140472)	due by 11:15am
Mon Jun 11, 2018	 In-Class Assignment 2 (https://fiu.instructure.com/courses/13958/assignments/140470)	due by 11:15am
Wed Jun 13, 2018	 Exam 2 (https://fiu.instructure.com/courses/13958/assignments/140473)	due by 11:15am
Mon Jul 2, 2018	 Exam 3 (https://fiu.instructure.com/courses/13958/assignments/140474)	due by 11:15am
Wed Jul 18, 2018	 Exam 4 (https://fiu.instructure.com/courses/13958/assignments/140475)	due by 11:15am
Mon Jul 23, 2018	 In-Class Assignment 3 (https://fiu.instructure.com/courses/13958/assignments/140471)	due by 11:15am
Wed Jul 25, 2018	 Final Exam (https://fiu.instructure.com/courses/13958/assignments/140466)	due by 9:30am
	 PRACTICE Session 1 - 5/7/18 (https://fiu.instructure.com/courses/13958/assignments/147945)	
	 Practice Session 2 - 5/9/18 (https://fiu.instructure.com/courses/13958/assignments/150215)	
	 Session 1 - 5/14/18 (https://fiu.instructure.com/courses/13958/assignments/150684)	
	 Session 2 - 5/16/18 (https://fiu.instructure.com/courses/13958/assignments/152500)	