

**PCB 4023 Cell Biology Lab  
Course Syllabus  
Fall 2017**

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Coordinator: Dr. Jaime Mayoral. Office, OE-213.  
Laboratory location: Owa Ehan, 304 (OE-304)  
Contact info for your lab facilitators:

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Your TA's office hours: to be announced in the lab class  
Course Webpage: see Blackboard

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**A. Course Description:**

This course is designed to provide students with a hands-on experience as a cell biology researcher. Research provides a valuable opportunity to consider what is known, ask a new question based upon that foundation, and perform experimental techniques to uncover new information. The results convert into a shared discovery when the scientist carefully records the data, considers the finding and presents it to others in discussions, written format, and formal presentations. This cell biology lab is a forum for student scientists to directly experience this scientific method by putting it into practice. Students will also gain experience in applying knowledge from past and present courses in the venue of this lab.

**B. Prerequisites:**

Students taking this course MUST have completed and passed Genetics (PCB3063).

**C. Text resources:**

All lab preparatory materials will be provided electronically to students through Blackboard prior to the lab. These text resources will explain conceptual background related to the exercise of the day, the question being addressed, and the outline of the experiment to be performed. Students will also be directed to other external information by web links in the material for that week.

**D. Organization:**

**Attendance policy**

Attendance at lab is mandatory, as we do not have make-up labs available. Students attending lab are also required to remain at laboratory for the duration of the lab period. Leaving prior to the end of the lab will earn a zero for the day's quiz, lab report and participation. Students arriving more than 15 minutes after the class started will not be allowed in the lab since typically, the distribution of the work, set up of the experiments and treatment of the cells will occur within these first minutes. Students will not be penalized for official excused absences that include observance of religious holy days, a death in the immediate family, and statutory government responsibilities. If you are absent for such reason, you must notify the instructor in writing in a timely manner (at least one week in advance to your lab session) and submit supporting documentation upon your return to class (scheduling a Dr's appointment for a time coinciding with a lab session is not an excusable absence). If any of the important due dates, presentation day or the final exam coincides with an official religious holiday, student must notify the instructor within 2 weeks of the commencement of the first lab session at the beginning of the semester. Points allocated to participation, notebook and quiz for each lab will be deducted per class absence

(~6.5%). Students who are absent more than 2 times for any reason (excused or unexcused) will earn an automatic failing grade for the course.

### **Safety**

Student safety in the lab is necessary for a thriving discovery environment. As per other lab classes, students are required to bring long pants, closed-toe shoes, lab coats and goggles to the cell bio lab, and follow safety procedures standard for the lab. Careful handling of the equipment is important for your protection. Cell phones and other personal items must also to be put away during lab time to prevent any possibility of contamination with lab reagents and pathogens.

### **Lab routine**

Student preparation before carrying out the experiment is valuable. Review of the procedures before attending lab, and actively participating in the introductory portion of the lab section will prepare students to fully understand the premise and technique involved in each exercise. Quizzes will be administered to students during the beginning portion of the lab course to assess student preparedness.

Recording the experience of each lab exercise is central to research. To this end, each student is asked to keep a notebook as part of the course. This notebook connects the student with the experience of recording the outcome from each meeting of the class: what is the major question addressed experimentally that day and the relevant processes of reporting and interpreting the results obtained. This transition of primary information to an organized, formal written form is usually done using the same format through research facilities across the globe (see document with guidelines). A lab report for each lab is due at the beginning of the next lab session, with a 20% deducted per day that it is late. This report should include the answers to the questions present at the end of the each lab manual (testing and applying your understanding).

This course does have a final exam. There are no makeup exams. Exam answer forms presented to the instructor after an exam has concluded will not be accepted.

Cheating is counterproductive to the big picture cell biology research in general, as it can deeply compromise work done by many other researchers. Students submitting plagiarized work or fraudulent exams in this course will be referred to the Dean of Undergraduate Education as outlined under "Academic Misconduct" in the Policies and Regulations section of the FIU Student Handbook.

### **E. Grading:**

The final grades for the class will be determined using the following scale; a grading curve will not be applied:

**A 100% - 90%, B+ 89.9% - 88%, B 87.9% - 80%, C+ 79.9% - 78%, C 77.9% - 70%, D 69.9% - 60%**

Each part of the course assessment contributes to the final grade, in the proportions shown here:

Surveys	1.5%
Quizzes	30%
Notebook	30%
Participation	8.5%
Final Exam	30%
<b>Total:</b>	<b>100%</b>

Scores will be available for viewing by appointment with the student's TA.

#### **F. Students with disabilities statement:**

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available to all students. Students that have a diagnosed disability and plan to utilize academic accommodations are asked to please contact the Center at 305-348-3532 or visit the DRC, located at the Graham Center GC 190. **Students are required to contact their instructors/TAs** regarding their accommodations so the proper arrangements with the DRC office can be made (**preferably during the first week of lab**). Official written documentation from the DRC office must be provided to your instructor/TA.

#### **G. Conduct:**

Students are expected to contribute to a positive, productive, and focused environment in the classroom by adhering to a respectful standard of conduct. Following common-sense guidelines will maximize the overall student experience, protect student privacy, and minimize student distraction from the tasks at hand. Photography, video recording, and inappropriate usage of computers or mobile devices by students is prohibited. Disrupting class, such as by inappropriate conversation between students, argument with other students or the instructor, launching projectiles of any kind, etc, has no place in Cell Biology. The Biology department is committed to a quality classroom environment, and retains the right to confiscate students' devices or dismiss students from the class if necessary. If a disruptive student refuses to exit the class upon being asked to do so, the instructor reserves the right to contact campus police.

Some students may experience extreme stress during the course due to difficult circumstances outside of class. We respect the needs of students in distress, and encourage students at any time of need to contact the supportive and knowledgeable staff at FIU Counseling and Psychological Services. They are reachable by phone at (305) 348-2277, and located at UHSC270. There are daily walk-in hours there from Monday-Friday. The Dean of Students, Cathy Akens is also standing by to help students access other resources. Students can visit her office in GC219, call her at (305) 348-2797, or email her at [akensc@fiu.edu](mailto:akensc@fiu.edu) There is help out there, and students do not have to go through it alone.

#### **H. Weekly schedule of activities**

On the next page is an outline of the planned activity schedule for this semester. As some portions of the lab are undergoing revision this semester, there is a small chance that the content of this schedule will change. If a schedule change occurs, the TAs will notify their students either during lab or by email, and a new schedule document would also be posted in Blackboard for student viewing.

\*Syllabus is subject to change at the discretion of the professor\*

<b>Week of:</b>	<b>Main activity:</b>	<b>Other goals/activities in the lab:</b>
Aug 29 – Aug 31	Light Microscopy	Lab intro + safety
Sep 5 Tissues and Cells Sep 6 *labs cancelled* Sep 7 *labs cancelled*		Discuss principles of sample prep
Sep 12 – Sep 14	<b>**Classes canceled: Hurricane IRMA**</b>	
Sep 19: All sections of cell bio labs on Tuesday are cancelled. Sep 20: Tissues and Cells Sep 21: Tissues and Cells		Discuss principles of sample prep Discuss principles of sample prep
Sep 26 – Sep 28	Cell Culture and Cell Counting	Learning to work in a cell bio lab
Oct 3 – Oct 5	Cell Staining	Identification of organelle composition
Oct 10 – Oct 12	Endocytosis	Using drugs to identify pathways in different cell types
Oct 17 – Oct 19	Adipogenesis Start	Prep lab Symbiosis
Oct 24 – Oct 26	Adipogenesis Finish	Integration of different techniques
Oct 31 – Nov 2	Cell Signaling and Motility	Cell bio applied to conservation Interactions of multiple pathways
Nov 7 – Nov 9	Environmental Drivers of Symbiosis	Discuss applications of qPCR
Nov 14 – Nov 16	Environmental Drivers of Symbiosis 2	Multi-approach to answer research questions
Nov 21 – Nov 23	*No Labs*	-- Thanksgiving Holiday ---
Nov 28 – Nov 30	Medical Testing	Screening diseases/ELISA
Dec 5 – Dec 7	<b>Final Exam</b>	