

PCB 3023 - Molecular Cell Biology - Spring 2021

Remote Instruction via *Zoom* - Section 0001 MWF 9:30-10:20 am

3 credit hours

Molecular Cell Biology is taught as synchronous lectures that require participation in iClicker Reef polling. Zoom lectures and online exams are held during the scheduled class time.

Instructor: Dr. Cynthia Bayer

Email: *Webcourses Inbox*

Undergraduate Teaching Assistant: Joshua

Chat Office Hour: M 12:30-1:20 pm

Zoom Office Hour: W 1:00-2:00 pm

Zoom Office Hour: R 11:00-12:00 noon

Course Description: To examine all aspects of the biology of the cell. We will study the structure and function of eukaryotic cells from the level of molecules to sub-cellular components, as well as the regulation of biological processes. Topics will emphasize integrating the physiologic, biochemical and genetic components of the cell and multicellular organisms.

Online learning: Due to the requirement for this course to be taught remotely, you will be expected to have daily access to the internet and email. Lectures will be delivered as live *Zoom* meetings. All exams will be held online during scheduled class time. Any updates, changes and reminders will be communicated to you via course email, lecture or Announcements. All students at UCF are required to obtain a [Knight's Email account](#) and check it regularly for official university communications. If you do not own a computer, computers connected to the internet are available in all UCF's computer labs. For further information on computer labs, please see guides.ucf.edu.

Online learning requires planning and self-pacing so that you may be successful in my course. I recommend treating this course like you would a F2F course. Students should plan to spend **9-12 hours per week** attending *Zoom* lectures, reading textbook assignments, and summarizing notes. Please do not be tempted to skip a week of lectures and expect to catch up easily.

Student Learning Outcomes: Successful students will demonstrate a broad understanding of the basic principles of molecular and cell biology, demonstrate an ability to apply information to new scenarios, and be able to draw connections between concepts. Students will be expected to demonstrate understanding of:

- How molecular and cellular structure dictates cellular function
- How genes and genomes are organized and the mechanisms by which they evolve
- How cells acquire and generate energy to drive metabolic processes
- Cytoskeletal and membrane structure and roles in movement, support and transport
- Cell communication with and response to its environment via signal transduction pathways.
- The processes regulating the cell cycle, cell renewal, and cell death
- How defects in cell cycle control lead to cell over-proliferation and cancer

Students will be evaluated on meeting these objectives via participation in iClicker Reef polling sessions during *Zoom* lectures and online exams.

Course Prerequisites: General Genetics (PCB 3063) and Organic Chemistry I (CHM 2210)

Academic Activity - Course Expectations:

- To meet the registrar's requirement for documentation of your participation in this course, please complete the **Course Expectations/Syllabus Quiz**, found in our Webcourse Quiz section, by **5:00 pm Friday, Jan 15**. Failure to do so will result in a delay in the disbursement of your financial aid.
- All students will receive credit for completion of the Course Expectations/Syllabus Quiz.

Course website: Access our course website at Webcourses@UCF via the myUCF portal using your NID and password. You will find links to the **Syllabus, Weekly Modules, Lecture PowerPoints, Smartwork5, Grades, Online Exams, Web Resources, Zoom** and **Chat** tools.

Communication via *Inbox*:

- Please contact me via Webcourses *Inbox*. Emails sent to my UCF address will not be answered.
- Compose a clear and succinct email message, including your name and course.
- I will refer your question to the Syllabus or Announcement if it is already answered there.
- I will carve out time once per weekday to answer emails and attempt to answer your message within 24 h.

REQUIRED Textbook: Essential Cell Biology, 5th edition by Alberts *et al.*, 2019. W.W. Norton, Inc.

- The 5th edition comes with access to the eBook and the digital resource *Smartwork5*, which contains animations, videos, and online assignments. I have chosen a subset of these assignments as recommended homework for students to preview, review and test their understanding. See the link on our Webcourses homepage for purchasing options.
- Although I strongly encourage students to use these digital *Smartwork5* resources (along with solutions) associated with the 5th edition, homework will not be submitted or graded, so you may choose instead to use the 3rd or 4th ed of Essential Cell Biology as a resource.

REQUIRED iClicker Reef: I will use *iClicker Reef* polling daily in *Zoom* for course points. You are required to participate with the *iClicker Reef* app on a smartphone, tablet, or laptop. See the link on our Webcourses homepage to create an *iClicker Reef* account by **Fri, Jan 22**.

Course Grade: 90% = Best 4 out of 5 exams
 10% = *iClicker Reef* points

- Students are responsible for keeping track of their grades and identifying issues within 2 days of any grade posting in Webcourses.
- Letter grades for the semester will be awarded according to the scale below. Letter grades will adhere to this percentage range with no exceptions. There will be **no curving** of final grades.

A = 90-100% B = 80-89% C = 70-79% D = 60-69% F = 59% and below

Online Exams: 4 lecture exams plus a COMPREHENSIVE Final exam are each worth 100 points. Exams will be based on material covered in lecture, which includes some topics not covered in the textbook. The lowest score of all 5 exams will be dropped automatically. The score of the Final exam will be dropped if it turns out to be the lowest of your scores, or you may choose to not take the Final exam. ***Online lecture exams will be held during scheduled class time, beginning at 9:30 am. (The Final Exam will be held according to the UCF Final Exam Schedule April 30 7:00-9:50 am, exact time TBD.)***

iClicker Reef points are earned from *Zoom* class participation and graded questions. Each day, 3 points are earned for participation (= answering at least 75% of the questions) plus additional points for graded questions (1 point for each correct answer and 0.25 point for each incorrect answer). Only a subset of questions will be graded each day. The two lowest iClicker day scores will be dropped automatically.

Zoom Lectures and Office hours: Please take the time to familiarize yourself with *Zoom* by visiting the [UCF Zoom Guides](#). You may choose to use *Zoom* on your mobile device (phone or tablet). Meeting dates and times will be scheduled through Webcourses and should appear on your calendar. *Zoom* Lectures will be recorded and posted in Webcourses.

- Find the scheduled meeting invitation at the *Zoom* tab in our Webcourse.
 - Join the meeting on time. Participants may be placed in a waiting room and permitted entry only during the first few minutes of the meeting to prevent unauthorized participants from joining.
 - By joining a *Zoom* meeting, you agree to be audio- and video-recorded.
 - Remember to keep your microphone muted unless asking or responding to a question.
 - Practice patience.
 - Anyone who violates UCF rules of conduct will be removed from the meeting.
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Taking Online Exams:

- All exams are available in the Webcourses *Quizzes* tool during the scheduled class time on the dates listed in the Syllabus and Weekly Modules, beginning at 9:30 am (Final Exam TBD).
 - Exam questions will be multiple choice.
 - Each exam is timed.
 - Each exam is available **ONLY** at the scheduled time.
 - You will see 1 question at a time and will not be able to change your answer once you move to the next question. You will not be permitted to view the previous question.
 - Students are not allowed to use assistance from another person, GroupMe, WhatsApp, Chegg Study, Google, or any other website while taking an online exam. (Discussed in greater detail in the **Academic Integrity** section below.)
 - Quiz Log Auditing will be used for all exams.

Excused Missed Exams:

- If an exam is missed due to an official, documented, University-accepted absence, a makeup exam will be permitted. Excused absences include official UCF business at which your presence is required, U.S. Military-related business (e.g. Reserve Duty), legal obligation (e.g. jury duty).
 - You must provide to me documentation with your name and the date affected **1 week prior** to the scheduled exam date.
 - A make-up exam may include short answer questions in addition to multiple choice.
- A makeup exam **may** be permitted if any other legitimate* documented reason that circumstances beyond your control, an EMERGENCY, prevented you from taking the scheduled exam (including, but not limited to, your hospitalization or a death in your immediate family)
 - Official documentation from an appropriate authority (doctor, police, judge, etc.) must be **provided within 24 hours of the missed exam**, *A doctor's note must be written on letterhead paper with a date and contact phone number and must indicate that a medical condition was treated or that a medical procedure or hospitalization occurred.
 - *If I approve your excuse*, I will arrange a time for a make-up exam on the last day of class. The make-up may include short answer questions in addition to multiple choice.
- If a student is permitted to take a makeup exam, they will **not** be permitted to take a makeup for a second exam later in the semester.

Unexcused Missed Exams: If a student misses an exam for an unexcused event (e.g., forgetting there was an exam, vacations, family gatherings or weddings) or *cannot provide acceptable documentation*, then they will receive a score of zero for that exam. The first zero score will be dropped as the lowest scoring exam. Any additional zero exam scores due to unexcused absences will count towards the final course grade.

Reviewing Exams: Your responses will be available to view after all students, including students with SAS time extension accommodations, have completed their exams and the grades are posted.

Excused iClicker points: In order for any absence from class that results in missed iClicker points to be excused, documentation must be provided according to the same policy described above for excused missed exams.

Academic Integrity:

As reflected in the UCF creed, integrity and scholarship are core values that should guide our conduct and decisions as members of the UCF community. Plagiarism and cheating contradict these values and are serious academic offenses. Students enrolled at UCF are expected to familiarize themselves and follow the University's *Rules of Conduct* (Section UCF-5.008) in the Golden Rule handbook <http://goldenrule.sdes.ucf.edu>.

Students are prohibited from engaging in **Academic Misconduct:**

- a) Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.
- b) Communication to another through written, visual, electronic, or oral means: The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment, or project.
- c) Commercial Use of Academic Material: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
- d) Falsifying or misrepresenting the student's own academic work.
- e) Plagiarism: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
- f) Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
- g) Helping another violate academic behavior standards.
- h) Soliciting assistance with academic coursework and/or degree requirements. The solicitation of assistance with an assignment, lab, quiz, test, paper, etc., without authorization of the instructor of record or designee is prohibited. This includes but is not limited to asking for answers to a quiz, trading answers, or offering to pay another to complete an assignment. It is considered Academic Misconduct to solicit assistance with academic coursework and/or degree requirements, even if the solicitation did not yield actual assistance (for example, if there was no response to the solicitation).

Students are prohibited from **Possessing and/or Providing False and Misleading Information and/or Falsification of University Records:**

- a) Withholding related information or furnishing false or misleading information (oral or written) to University officials, university and non-university law enforcement officers, faculty or staff.
- b) Possession, use or attempted use of any form of fraudulent identification.
- c) Forgery, alteration or misuse of any University document, material, file, record or instrument of identification.
- d) Deliberately and purposefully providing false or misleading verbal or written information about another person.
- e) Falsification, distortion, or misrepresentation of information during an investigation, the Student Conduct Review Process, including knowingly initiating a false complaint.

Unauthorized Use of Technology for Graded Work: If you were in a classroom setting taking an exam, would you ask the student sitting next to you for the answer to an exam question? The answer should be no. This means that students are not allowed to use GroupMe, WhatsApp, or any other form of technology to exchange course material associated with a graded assignment, quiz, exam, etc. when opened on Webcourses.

The completion of graded work in an online course should be considered a formal process: Just because you are not in a formal classroom setting being proctored while taking a quiz or exam does not mean that the completion of graded work in an online course should not be treated with integrity. The following are examples that show how the use of technology can be considered academic misconduct and could result in the same penalties as cheating in a face-to-face class:

- Taking a screen shot of an online quiz or exam question, posting it to GroupMe or WhatsApp, and asking for assistance is considered academic misconduct.
- Answering an online quiz or exam question posted to GroupMe or WhatsApp is considered academic misconduct. Giving advice, assistance, or suggestions on how to complete a question associated with an online assignment, quiz, or exam is considered academic misconduct.
- The use of outside assistance from another student or by searching the internet, Googling for answers, use of websites such as Quizlet, Course Hero, Chegg Study, etc. is considered academic misconduct.
- Gathering to take an online quiz or exam with others and sharing answers in the process is considered academic misconduct.

If a student or group of students are found to be exchanging material associated with a graded assignment, quiz, or exam through any form of technology (GroupMe, WhatsApp, etc.), or use of outside assistance (Googling answers, use of websites such as Quizlet, Course Hero, Chegg Study, etc.), they could receive anywhere from a zero grade on the exercise to an “F” in the course depending on the act.

Unauthorized Use of Websites and Internet Resources: There are many websites claiming to offer study aids to students, but in using such websites, students could find themselves in violation of academic conduct guidelines. These websites include (but are not limited to) Quizlet, Course Hero, Chegg Study, and Clutch Prep. UCF does not endorse the use of these products in an unethical manner, which could lead to a violation of our University’s Rules of Conduct. They encourage students to upload course materials, such as test questions, individual assignments, and examples of graded material. Such materials are the intellectual property of instructors, the university, or publishers and may not be distributed without prior authorization. Students who engage in such activity could be found in violation of academic conduct standards and could face course and/or University penalties. Please let me know if you are uncertain about the use of a website so I can determine its legitimacy.

Unauthorized Distribution of Class Notes: Third parties may attempt to connect with you to sell your notes and other course information from this class. Distributing course materials to a third party without my authorization is a violation of our University’s Rules of Conduct. Please be aware that such class materials that may have already been given to such third parties may contain errors, which could affect your performance or grade. If a third party should contact you regarding such an offer, I would appreciate your bringing this to my attention. We all play a part in creating a course climate of integrity.

Quiz Log Audit: For each online exam, you are expected to remain on the testing screen for the duration. You may not visit other sections of the course, other websites, or communication tools for assistance. I will be monitoring the Webcourses@UCF Quiz Log Audit for compliance. Failure to access only the exam during testing will result in an academic integrity violation.

Responses to Academic Dishonesty, Plagiarism, or Cheating: Students should also familiarize themselves with the procedures for academic misconduct in UCF’s student handbook, *The Golden Rule* handbook <http://goldenrule.sdes.ucf.edu>. UCF faculty members have a responsibility for students’ education and the value of a UCF degree, and so seek to prevent unethical behavior and respond to academic misconduct when necessary.

Penalties for violating rules, policies, and instructions within this course can range from a zero on the exercise to an “F” letter grade in the course. In addition, an Academic Misconduct report could be filed with the Student Conduct and Academic Integrity <https://scai.sdes.ucf.edu> which could lead to disciplinary warning, disciplinary probation, or deferred suspension or separation from the University through suspension, dismissal, or expulsion with the addition of a “Z” designation on one’s transcript.

Being found in violation of academic conduct standards could result in a student having to disclose such behavior on a graduate school application, being removed from a leadership position within a student organization, the recipient of scholarships, participation in University activities such as study abroad, internships, etc.

Let’s avoid all of this by demonstrating values of honesty, trust, and integrity. No grade is worth compromising your integrity and moving your moral compass. Stay true to doing the right thing: take the zero, not a shortcut.

Time commitment: For most students striving for B grades or higher, I recommend scheduling 9-12 hours per week for engaging with this course. Your background knowledge/experience and other variables may require you to spend additional time. Please plan accordingly by scheduling time on your calendar now. Several factors influence student academic performance and long-term learning. Active engagement in all course activities (e.g., Zoom lecture, iClicker Reef polling, textbook readings, Smartwork5 homework, reviewing) will contribute to your learning and to success in this course.

Course Accessibility: It is my goal that this class be an accessible and welcoming experience for all students, including those with disabilities that may impact learning in this class. If anyone believes the design of this course poses barriers to effectively participating and/or demonstrating learning in this course, please meet with me (with or without a Student Accessibility Services (SAS) accommodation letter) to discuss reasonable options or adjustments. You may also want to contact SAS <http://sas.sdes.ucf.edu> (Ferrell Commons 185; 407-823-2371) to talk about academic accommodations.

Help & SARC: Please ask for help if you need it! I am here to answer your questions. Additionally, help is available through SARC (Student Academic Resource Center, Howard Phillips Hall, Room 113: 407-823-5130; <http://www.sarc.sdes.ucf.edu>). Students can request a Learning Consultation with a Learning Skills Specialist or attend Academic Success Workshops to improve study skills & strategies.

Deployed Active-Duty Military Students: Students who are deployed active-duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

UCF Cares: UCF and I care not only about your academic success, but also your overall well-being. Please visit UCFcares.com <http://cares.sdes.ucf.edu> if you are seeking resources or support, or if you are worried about a friend or classmate. Free services and information are included for a variety of student concerns, including but not limited to alcohol use, bias incidents, mental health concerns, sexual harassment or assault, and financial challenges. You can also e-mail ucfcares@ucf.edu with questions or for additional assistance. You can reach a UCF Cares staff member Student Care Services, <http://scs.sdes.ucf.edu>, Ferrell Commons 142, between 8 a.m. and 5 p.m. by calling 407-823-5607.

If you are in immediate distress, please call Counseling and Psychological Services (CAPS), Counseling Center 101 <http://caps.sdes.ucf.edu> to speak directly with a counselor 24/7 at 407-823-2811, or call 911.

Academic Services and Resources: A list of available academic support and learning services is available at [UCF Student Services](#). Click on "Academic Support and Learning Services" on right-hand side to filter.

Non-Academic Services and Resources: A list of non-academic support and services is also available at [UCF Student Services](#). Click on "Support" on the right-hand side to filter.

Campus Safety Statement: Emergencies on campus are rare, but everyone should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
 - Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Please make a note of the guide's physical location and consider reviewing the online version at http://emergency.ucf.edu/emergency_guide.html.
 - Familiarize yourself with evacuation routes from each of your classrooms and have a plan for finding safety in case of an emergency.
 - If there is a medical emergency during class, a first aid kit or AED (Automated External Defibrillator) may be required. To learn where those items are located in any building, see <http://www.ehs.ucf.edu/AEDlocations-UCF>
 - To stay informed about emergency situations, sign up to receive UCF text alerts by going to my.ucf.edu and logging in. Click on "Student Self Service" located on the left side of the screen in the tool bar, scroll down to the blue "Personal Information" heading on your Student Center screen, click on "UCF Alert", fill out the information, including your e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
 - Consider viewing this video [You CAN survive an active shooter](#) about how to manage an active shooter situation on campus or elsewhere.
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COVID-19:

To protect members of our community, everyone is required to wear a facial covering inside all common spaces (<https://policies.ucf.edu/documents/PolicyEmergencyCOVIDReturnPolicy.pdf>).

COVID-19 and Illness Notification – Students who believe they may have a COVID-19 diagnosis should contact UCF Student Health Services (407-823-2509) so proper contact tracing procedures can take place.

Students should not come to campus if they are ill, are experiencing any symptoms of COVID-19, have tested positive for COVID, or if anyone living in their residence has tested positive or is sick with COVID-19 symptoms. CDC guidance for COVID-19 symptoms is located here: (<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>)

In Case of Faculty Illness – If the instructor falls ill during the semester, there may be changes to this course, including having a backup instructor take over the course. Please look for announcements or mail in Webcourses@UCF or Knights email for any alterations to this course.

Note that the instructor reserves the right to make changes to the syllabus or other aspects of the course at any time. These changes will be announced in Webcourses.

Zoom Lecture Dates

Jan 11: *Course introduction & Chapter 1 - Cells*

Jan 13: Chapter 1

Jan 15: Chapter 2 - *Molecules of the Cell*

Jan 15: ADD/DROP deadline 11:59 pm

Jan 18: **MLK Holiday**

Jan 20: Chapter 2 & 4 - *Proteins*

Jan 22: Chapter 4

Jan 25: Chapter 5 - *Genome Organization*

Jan 27: Chapter 5

Jan 29: Chapter 6 - *DNA Repair & Recombination & Practice Exam*

Feb 01: Chapter 6

Feb 03: Chapter 6

Feb 05: **Exam 1 (Chapters 1, 2, 4, 5, 6)**

Feb 08: Chapter 9 - *Evolution of Genes & Genomes*

Feb 10: Chapter 11/12 - *The Cell Membrane*

Feb 12: Chapter 11/12

Feb 15: Chapter 11/12 - *Membrane Transport*

Feb 17: Chapter 3 - *Energy*

Feb 19: Chapter 3

Feb 22: Chapter 13/14 - *Respiration*

Feb 24: Chapter 13/14

Feb 26: Chapter 14

Mar 01: **Exam 2 (Chapters 9, 11, 12, 3, 13, 14)**

Mar 03: Chapter 14 - *Biosynthesis*

Mar 05: Chapter 14

Mar 08: Chapter 15 - *Secretion*

Mar 10: Chapter 15

Mar 12: Chapter 16 - *Cell Communication*

Mar 15: Chapter 16

Mar 17: Chapter 16 - *Signal Transduction*

Mar 19: Chapter 16

Mar 22: Chapter 16

Mar 24: **Exam 3 (Chapters 14, 15, 16)**

Mar 26: Chapter 17 - *Cytoskeleton*

Mar 26: Withdrawal deadline 11:59 pm

Mar 29: Chapter 17

Mar 31: Chapter 17 & 18/20 - *Apoptosis/Cell Renewal*

Apr 02: Chapter 18/20

Apr 05: Chapter 18/20

Apr 07: Chapter 18 - *Cell Cycle*

Apr 09: Chapter 18

Apr 11-18: Spring Break

Apr 19: Chapter 18

Apr 21: **Exam 4 (Chapters 17, 18, 20)**

Apr 23: Chapter 20 - *Cancer*

Apr 26: Chapter 20

Apr 30: **Comprehensive Final Exam** (Friday, 7:00 - 9:50 am Final Exam Period)