

PCB 3023 - Molecular Cell Biology - Spring 2019

Lecture Section 0001: MWF 1:30–2:20 (MSB-260)

Instructor: Dr. Cynthia Bayer

Office (BIO 202D) Hours: Mon & Wed 10:30-11:20 am

Email: Webcourses *Inbox*

Wed & Fri 2:30-3:30 pm

Biology Main Office: 407-823-2141

Undergraduate Assistant: Rez

Office (BIO 201) Hours:

Course Description: *Credit Hours: 3 (3,0)*

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

Purpose of the Course: 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.

Course Objectives: *To understand:*

- 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 cell renewal and death and how mis-regulation leads to cancer.
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Required Textbook: Essential Cell Biology, 4th edition by Alberts *et al.*, 2014. W.W. Norton, Inc.

Required iClicker: We will be using the iClicker classroom response system on a regular basis for class points. You will need to purchase an **iClicker remote** and bring it with you to every class lecture. It would be wise to bring extra batteries. The purchase of a remote is NOT optional; it will be used as an integral part of this course. You must register for this course no later than **January 16, 2019**.

Course Website: Access our course at Webcourses@UCF via the myUCF portal using your NID and NID password. There you will find a page of **Lecture PowerPoints** for you to print and bring to lecture, the **Syllabus**, **Gradebook**, and **iClicker information**.

Academic Activity: In order to document that you have participated in this course, please complete the **Syllabus Quiz** on our Webcourses page by **January 11** or as soon as possible after adding the course. Failure to do so may result in a delay in the disbursement of your financial aid.

Classroom Conduct: Please use common courtesy in class by arriving and departing on time, refraining from talking during class, and silencing cell phones and other electronic devices.

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 uphold the standards of academic behavior defined in the University's *Rules of Conduct* (Section UCF-5.008) in the Golden Rule handbook <http://goldenrule.sdes.ucf.edu>.

office hours, for the period of time up until the next exam (e.g., exam 1 can be reviewed up until the time that exam 2 is administered).

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.

UCF Cares: UCF and I care not only about your academic success, but also your overall well-being. Please visit <http://cares.sdes.ucf.edu/students> 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, 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 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 to speak directly with a counselor 24/7 at 407-823-2811, or please call 911.

Campus Safety: Emergencies on campus are rare, but if one should arise in our class, we will all need to work together. Everyone should be aware of the surroundings and familiar with some basic safety and security concepts. Please see the **Campus Safety Link** on our Webcourse for more information.

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.”

Important Academic Dates:

Holidays:

Jan 7	Classes begin	Jan 21	Martin Luther King Jr. Day
Jan 10	Drop/Swap deadline	Mar 11-15	Spring Break
Jan 11	Add deadline		
Mar 20	Withdrawal/Grade forgiveness deadline		
Apr 22	Classes end		
Apr 24-30	Final Examination Period		
Apr 29	PCB 3023 Final Exam (Monday) 1:00 – 3:50 pm		
May 2-4	Commencement		
May 6	Grades Available on myUCF		

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 class or in Webcourses.

Lecture Schedule (2019)

Jan 07: *Course introduction*

Jan 09: Chapter 1 - *Cells*

Jan 11: Chapter 1

Jan 10: DROP deadline 11:59 pm

Jan 11: ADD deadline 11:59 pm

Jan 14: Chapter 2 - *Molecules of the Cell*

Jan 16: Chapter 2/4 - *Proteins*

Jan 18: Chapter 4

Jan 21: **MLK Holiday**

Jan 23: Chapter 5 - *Genome Organization*

Jan 25: Chapter 5

Jan 28: Chapter 6 - *DNA Repair & Recombination*

Jan 30: Chapter 6

Feb 01: **Exam 1 (Chapters 1, 2, 4, 5, 6)**

Feb 04: Chapter 8 - *Cell Differentiation*

Feb 06: Chapter 9 - *Evolution of Genes & Genomes*

Feb 08: Chapter 11/12 - *The Cell Membrane*

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

Feb 13: Chapter 3 - *Energy*

Feb 15: Chapter 3

Feb 18: Chapter 13/14 - *Respiration*

Feb 20: Chapter 13/14

Feb 22: Chapter 14

Feb 25: **Exam 2 (Chapters 8, 9, 11, 12, 3, 13, 14)**

Feb 27: Chapter 14 - *Biosynthesis*

Mar 01: Chapter 14

Mar 04: Chapter 15 - *Secretion*

Mar 06: Chapter 15

Mar 08: Chapter 16 - *Cell Communication*

Mar 11-15: **Spring Break**

Mar 18: Chapter 16

Mar 20: Chapter 16 - *Signal Transduction*

Mar 20: Withdrawal deadline 11:59 pm

Mar 22: Chapter 16

Mar 25: Chapter 16

Mar 27: **Exam 3 (Chapters 14, 15, 16)**

Mar 29: Chapter 17 - *Cytoskeleton*

Apr 01: Chapter 17

Apr 03: Chapter 17/18-20 - *Apoptosis/Cell Renewal*

Apr 05: Chapter 18-20

Apr 08: Chapter 18-20

Apr 10: Chapter 18 - *Cell Cycle*

Apr 12: Chapter 18

Apr 15: Chapter 18

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

Apr 19: Chapter 20 - *Cancer*

Apr 22: Chapter 20

Mon, Apr 29: **Comprehensive Final Exam (1:00-3:50 pm)**