PCB 3023 - Molecular Cell Biology - Spring 2018

Section 0001: MWF 1:30–2:20 Lecture (BA1-119)

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

Undergraduate Assistant: Bryan Jimenez **Office (BIO 201) Hours:** Mon 2:30-3:30 pm

Course objectives: To examine 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 include genome structure and dynamics, DNA repair and recombination, bioenergetics, metabolism, membrane structure and transport, intracellular vesicle trafficking, organization and function of the cytoskeleton and extracellular matrix, cell signaling, apoptosis and cell cycle control.

Prerequisites: Some topics covered in General Genetics (PCB 3063) and Organic Chemistry I (CHM 2210) may be reviewed briefly in this course, but not discussed in depth. These 2 courses are required as prerequisites in order to help you succeed in this course.

Required Textbook: Essential Cell Biology, 4th edition by Alberts *et al*., 2014. Garland Science.

Required iClicker: We will be using the iClicker classroom response system on a regular basis for class points. You will need to purchase a physical **iClicker remote** or **REEF subscription** and bring it with you to every class lecture. It would be wise to bring extra batteries for your remote. The purchase of a remote/REEF is NOT optional; it will be used as an integral part of this course. You must register for this course no later than **JAN 17, 2017**. TO REGISTER YOUR REMOTE: in **Webcourses** click on the iClicker tab. Follow the instructions to type in your clicker ID (which is directly under the barcode on the back of your remote). You may use either a multiple choice-only **iClicker+**, or the alphanumeric-capable **iClicker2** remote, as I will only utilize multiple-choice responses to questions in this course. TO REGISTER in REEF: Purchase a REEF Education subscription and enter your UCF NID in your REEF profile, find and join our course.

Course Website: Access our course website 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**, and **iClicker information**.

Communication: I will communicate with students via Announcements or Inbox within Webcourses.

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. Penalties can include a failing grade in an assignment or in the course, or suspension or expulsion from the university. Students are expected to familiarize themselves with and follow the University's Rules of Conduct http://www.osc.sdes.ucf.edu/.

Grading: **90%** = Best 4 out of 5 exams (100 points/exam x 4)
10% = iClicker points - class participation = 3 pts.
- graded questions: correct = 1 pt., incorrect 0.25 pt.

There will be 4 regular exams plus a comprehensive final exam, each worth 100 points. The exams will be based on material covered in lecture, which includes topics not covered in the textbook. Some notes and diagrams presented in lecture are not included in the PowerPoint slides available at the Webcourse website. Therefore, students who routinely skip lectures will be at a significant disadvantage.

Exam scores will be posted on the Grades page at the Webcourses site. **90%** of your course grade will be based on the **best 4 out of 5** exam scores. The score of the final exam will be dropped if it turns out to be the lowest of your scores, or you may choose not to take the final exam. The points earned from i>clicker class participation and graded questions will comprise **10%** of your course grade. Flat letter grades for the semester will be awarded according to the scale below. Letter grades will adhere to this percentage range with no exceptions. **Note: This is a 3-credit course.**

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

Missed Exam Policy: If you miss an exam for any reason, that exam will receive a score of 0 and will be the exam that is dropped from the final grade calculation. If you miss a second or subsequent exam, you must provide acceptable documented evidence from an appropriate authority (doctor, police, judge, etc.) that circumstances beyond your control prevented you from taking the exam, or that you were required to participate in official UCF business. A doctor's note must be on letterhead with a contact phone number, and must indicate that a medical condition was treated. Documented evidence must be presented to me within 24 hours of the start of the exam. Make-up exams will be given following the final exam or at a mutually convenient time to be arranged. In the absence of acceptable documentation, a grade of 0 will be assigned for the second or subsequent missed exam.

Taking Exams: All exams will use scantrons that will be provided to each student. It is your responsibility to bubble in the scantron answers completely and erase clearly. You will need to bring a #2 pencil and your valid UCF Student ID card. Your name and PID number must be printed on the answer sheet and will be checked as you leave the exam. If you arrive late to a test, you will be allowed to take the test. However, you must turn in the test paper at the regular scheduled end of the test. You will not be allowed extra time unless a documentable emergency has occurred (see above).

All electronic devices must be inaccessible during exams. Turn baseball caps backward while taking exams. Go to the restroom before the exam. Any student caught using unauthorized materials, including electronic devices, in an exam, copying off another paper, signing in for someone else on an exam, or in any way misrepresenting their work will receive an automatic F and the matter will be referred to the UCF Office of Student Conduct for disciplinary action. In addition, a "Z Designation" will be placed on the student's official transcript indicating academic dishonesty, where the letter Z will precede the final grade for this course. For more information about the Z Designation, see http://z.ucf.edu/.

Reviewing Exams: Scantrons will not be returned to students. Individual test report sheets with all correct and incorrect responses marked on it will, however, be available. Scores will be posted at our Webcourses site. Exam papers and scantrons can be reviewed in my office, during regularly scheduled 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.

Important Academic Dates:

Jan 8	Classes begin
Jan 11	Drop/Swap deadline
Jan 12	Add deadline
Mar 21	Withdrawal/Grade forgiveness deadline
Apr 23	Classes end
Apr 25 – May 1	Final Examination Period
Apr 30	**PCB 3023 Final Exam** (Monday) 1:00 – 3:50 pm
May 7	Grades Available on myUCF
May 3 – 5	Commencement

Holidays:

Jan 15	Martin Luther King Jr. Day
Mar 12 –16	Spring Break

Academic Activity:
All faculty are required to document students' academic activity at the beginning of each course. In order to document that you began this course, please complete the **Syllabus Quiz** on our Webcourses site by **January 12** 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.

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

Tentative Lecture Schedule (subject to change):

Jan 08: *Course introduction*
Jan 10: Chapter 1 – *Cells*
Jan 12: Chapter 1

Jan 11: DROP deadline 11:59 pm
Jan 12: ADD deadline 11:59 pm

Jan 15: **MLK Holiday**
Jan 17: Chapter 2 - *Molecules of the Cell*
Jan 19: Chapter 2/4 - *Proteins*

Jan 22: Chapter 4
Jan 24: Chapter 5 - *Genome Organization*
Jan 26: Chapter 5

Jan 29: Chapter 6 - *DNA Repair & Recombination*
Jan 31: Chapter 6
Feb 02: **Exam 1 (Chapters 1, 2, 4, 5, 6)**

Feb 05: Chapter 8 - *Cell Differentiation*
Feb 07: Chapter 9 - *Evolution of Genes & Genomes*
Feb 09: Chapter 11/12 - *The Cell Membrane*

Feb 12: Chapter 11/12 - *Membrane Transport*
Feb 14: Chapter 3 - *Energy*
Feb 16: Chapter 3

Feb 19: Chapter 13/14 - *Respiration*
Feb 21: Chapter 13/14
Feb 23: Chapter 14

Feb 26: **Exam 2 (Chapters 8, 9, 11, 12, 3, 13, 14)**
Feb 28: Chapter 14 - *Biosynthesis*
Mar 02: Chapter 14

Mar 05: Chapter 15 - *Secretion*
Mar 07: Chapter 15
Mar 09: Chapter 16 - *Cell Communication*

Mar 12-16: **Spring Break**

Mar 19: Chapter 16
Mar 21: Chapter 16 - *Signal Transduction*
Mar 23: Chapter 16

Mar 21: Withdrawal/Grade forgiveness deadline 11:59 pm

Mar 26: Chapter 16
Mar 28: **Exam 3 (Chapters 14, 15, 16)**
Mar 30: Chapter 17 - *Cytoskeleton*

Apr 02: Chapter 17
Apr 04: Chapter 17/18-20 - *Apoptosis/Cell Renewal*
Apr 06: Chapter 18-20

Apr 09: Chapter 18-20
Apr 11: Chapter 18 - *Cell Cycle*
Apr 13: Chapter 18

Apr 16: Chapter 18
Apr 18: **Exam 4 (Chapters 17, 18, 20)**
Apr 20: Chapter 20 - *Cancer*

Apr 23: Chapter 20

Mon, Apr 30: **Comprehensive Final Exam** (1:00-3:50 pm)