

**Biology 305-F: General Biology Syllabus and Schedule**  
**T-R 9:25-10:40 am, Hederman 105**

Instructor: Elizabeth Brandon, Assistant Professor

Credit: 3 hours

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Prerequisites: BIO 111, and CHE 141 and sophomore standing or higher or instructor's consent.

Catalog Course Description: lecture for three hours a week. An analysis of the organization and physiology of eukaryotic cells. This course is designed for Biology majors and minors.

Course rationale: Cell Biology is designed to provide students with detailed instruction in the structure and physiology of cells. This course is intended for students who are pursuing advanced training in the biological sciences and is required for acceptance into many of the health professional schools and graduate programs in the biomedical sciences. Building on the student's knowledge of cell structures and functions that were covered in Biology 111, most of the discussion in this course will focus on eukaryotic cells from multicellular organisms, with particular emphasis on the mechanics of cell growth and division, signal transduction, energetics, and the synthesis and transport of lipids and proteins. An important part of students' training in this course involves the application of new concepts to the discussion of biological problems in accordance with the university's commitment to academic excellence.

Course objectives and student outcomes:

1. Students will be able to describe the process by which genes are expressed.
2. Students will be able to explain the mechanism by which proteins are synthesized and targeted to their final cellular destination.
3. Students will describe protein folding as governed by thermodynamics and explain the cellular responses to unfolded/misfolded proteins.
4. Students will describe the structure of cell membranes and the mechanisms by which various classes of substances are transported across them.
5. Students will calculate the equilibrium potential for ions that are important for membrane potential.
6. Students will explain the mechanisms by which cargo is transported through the secretory pathway.
7. Students will list the functions of cytoskeletal proteins and describe their means of regulation.
8. Students will explain the control of the cell cycle.
9. Students will describe cellular metabolism and explain the mechanisms that regulate cellular energy homeostasis.
10. Students will distinguish the mechanisms of cell signaling (endocrine, paracrine, autocrine, neurocrine) and describe the major intracellular signaling pathways.

Methods of instruction: The course will consist of three hours of lecture per week. PowerPoint presentations, overheads, notes on the dry-erase board, oral instructions/examples, videos, and podcasts are all methods that will be used to convey course material.

Instructional materials:

Text: Essential Cell Biology 3<sup>rd</sup> ed. Garland Science. ISBN: 978-0-8153-4129-1

Lecture notes will be posted online on Moodle.

Required Practices: reading, memorization, diagramming, writing out-of-class assignments, computer use, and working practice problems out of class.

NOTES: A tuition refund cannot be made on dropped classes *after the first week* of classes. The last day to withdraw from class with a W is **Friday October 25, 2013.**

Refund schedule for withdrawal:

1st Week.....	100%
2nd Week.....	75%
3rd Week.....	50%
4th Week.....	25%
5th Week.....	0%

Important college dates:

Monday September, 2013: Labor Day. No class.

Tuesday September 3, 2012: Last day to drop the class with 100% tuition refund.

Monday-Tuesday October 7-8, 2013: Fall Break. No class.

Last day to drop a class is October 25, 2013 (zero tuition refund)

Wednesday – Sunday November 27- December 1: Thanksgiving holidays

All classes meet Monday November 25

All day classes meet Tuesday November 26

Night classes do NOT meet Tuesday November 26

Attendance: Your attendance in lectures is welcomed and expected. I will follow the University attendance policy as described in the school catalog, which can be found in The MC Undergraduate Catalog, p.56 – 57. (<http://www.mc.edu/resources/publications/catalogs.php>).

*Please note that your grade can be reduced as a result of excessive absences. If you miss >25% of the classes (12 classes), you will be given an F automatically. Your grade may be lowered if you have excessive absences.*

Absence from class: It is the student's responsibility to make-up missed assignments. No make-up quizzes. **Tests missed for any reason will be made up on Monday Dec. 9 at 6:00 PM.**

Academic integrity: You are members of an institution that is dedicated to scholarship and spiritual growth. This institution is part of the larger academic community, the foundation of which is based on personal honesty. The success of this community depends on the commitment of both students and faculty to this principle and therefore cheating and plagiarism cannot and will not be tolerated. More importantly, Mississippi College is dedicated to empowering its students to develop the skills necessary for “making responsible, moral choices,” and thus, the University will accept nothing less than scrupulous honesty from its students. We will follow the University policy on Academic Honesty (Policy 2.19), which can be found in the student handbook, The Tomahawk, pp. 41 – 43.

<http://www.mc.edu/publications/handbook/academic.pdf>

Cell phones are not allowed out in the classroom after class begins. They are to be kept in your book bag, purse or pocket. They are not allowed on the desk or in your lap. Before class begins, turn cell phone ringers OFF.

Audio recording of lectures is permitted. Video recording is **NOT** permitted at any time. **Taking photos with cell phones or other devices is also NOT permitted.**

Recording of any type (video, audio or photos) during the review of quizzes and exams is NOT permitted.

Testing procedures:

-Touching a cell phone after an exam is passed out will result in loss of 20 points on the exam.

- Failure to turn off recording devices during such times is considered cheating and will result in an F on the exam and possible disciplinary procedures for cheating.
- Touching a cell phone or other electronic devices other than the calculator that was provided to you is NOT permitted and will result in an F on the exam.

Academic tutoring: This is a free service provided by the university for its students. Students who need help with studying should take advantage of this. Information can be found using the following link: <http://www.mc.edu/academics/academic-tutoring>

Students may also request tutoring through the Biology department, by signing up with Mrs. Sue Caldwell in Hederman 104.

NOTES: A full tuition refund cannot be made on dropped classes *after September 4*. The last day to withdraw from class with a W is **October 25, 2013**.

Class etiquette: This is our class and it belongs to each one of us. Arriving late, texting, receiving cell phone calls or pages, having temper tantrums, and being disruptive robs us of the time that we have to work together. Stealing is wrong. Therefore, arriving late, texting, receiving cell phone calls or pages, having temper tantrums, and being disruptive is wrong. It isn't beautiful logic, but you can catch the drift.

Student grading: There will be four tests and weekly quizzes over the course of the semester. There will be three outside assignments that provide additional opportunities for students to learn the course material. Tests are cumulative and will be graded on a 100 point scale. Quizzes are not cumulative and will be graded on a 10 point scale. I will drop the three lowest quiz grades. The following table contains the breakdown of how your final grade for the course will be calculated:

Unit tests	45% (15%/test)
Final exam	30%
Weekly quizzes	10%
Unit assignments	15% (5%/assignment)
Total	100%

Grading scale: 90-100% = A, 80-89% = B, 70-79% = C, 60-69% = D, and <60% = F.

Guidelines for doing well:

1. **Come to class and take notes.**
2. **Rewrite your notes after class and make additional notes to those you took class.**
3. **Study cell biology at least eight hours per week, outside of class.**
4. **Don't read the book chapter from beginning to end. You should learn to spot read and look for specific information using the chapter objectives.**
5. **Keep a record of your grades and ask for help early.**

Special accommodations at Student Counseling Services:

In order for a student to receive disability accommodations under Section 504 of the Americans with Disabilities Act, he or she must schedule an individual meeting with the Director of Student Counseling Services **immediately upon recognition of their disability** (if their disability is known they must come in before the semester begins or make an appointment **immediately** upon receipt of their syllabi for the new semester). The student must bring with them written

documentation from a medical physician and/or licensed clinician that verifies their disability. If the student has received prior accommodations, they must bring written documentation of those accommodations (example Individualized Education Plan from the school system). Documentation must be current (**within 3 years**). The student must meet with SCS **face-to face** and also attend two (2) additional follow up meetings (one mid semester before or after midterm examinations and the last one at the end of the semester). Please note that the student may also schedule additional meetings as needed for support through SCS as they work with their professor throughout the semester. Note: Students must come in **each semester** to complete their Individualized Accommodation Plan (example: MC student completes fall semester IAP plan and even if student is a continuing student for the spring semester they must come in again to complete their spring semester IAP plan).

Student Counseling Services is located in Alumni Hall Room #4 or they may be contacted via email at: [mbryant@mc.edu](mailto:mbryant@mc.edu) or [rward@mc.edu](mailto:rward@mc.edu) or by phone at [601-925-7791](tel:601-925-7791).

### **Tentative Test Schedule**

Test 1: September 19

Test 2: October 17

Test 3: November 26

**Final comprehensive exam Saturday December 14 8:00 am – 11:00 am**

**\*\*\*\*\*THE FINAL DROP DATE FOR THIS CLASS IS FRIDAY OCTOBER 25\*\*\*\*\***