

Instructor: Jerry W. Reagan, Ph.D., Associate Professor
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Credit: 3 hours

Location and Time: 210 – Medical Sciences Building, 11:00-11:50, Monday, Wednesday, and Friday

Important Dates:

January 20 – Martin Luther King Holiday

January 23 – Last day to drop a course with 100% tuition refund.

March 10-16 – Fall Break

March 21 – Last day to drop – 0% refund

April 21 – Easter Holiday

Prerequisites and Background: Based on the prerequisites for this course (BIO 111, CHE 141, sophomore standing or higher), I assume that you have a basic understanding of cellular structure and function and basic chemistry as it relates to cellular function.

Course Objective and Rationale: This course is designed to provide students with detailed instruction in the structure, organization and physiology of cells. During the course of the semester, we will explore the function of macromolecules and the molecular basis of fundamental cellular processes. Our focus will be primarily (not exclusively) on eukaryotic cells from multicellular organisms and will build on the knowledge and understanding gained in Biol 111. We will cover such topics as biochemical energetics, membrane composition and structural organization, protein structure and function, gene (DNA) structure and function, posttranscriptional regulation of gene expression, cytoskeletal function and dynamics, protein synthesis and targeting, protein movement and modification through the secretory pathway, regulation of cell division (cell cycle), and signal transduction pathways. At the end of the course you should have a thorough understanding of these and perhaps other processes. You should also understand the integrated nature of these processes and be able to describe how they work together to maintain cellular homeostasis. This course is designed 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 biomedical sciences. In addition, cells are considered the fundamental unit of life and a thorough understanding of cellular structure and function, therefore, contributes to a complete understanding and appreciation of all life forms.

Textbook: Essential Cell Biology - Alberts et al. 3rd edition (ISBN: 978-0-8153-4129-1)

Lecture: The primary mode of instruction for this course consists of three, fifty minute lectures per week. On occasion, a class may be devoted to discussion of a relevant topic or devoted to solving pre-assigned problems.

Lecture Notes: The lecture notes (i.e. power point slides) will be posted on Moodle. It is your responsibility to print the handouts if you desire a hard copy.

Reading, Websites and Problems: The primary reading will come from the textbook. You may also receive additional reading assignments or be directed to useful websites or podcasts. Most of the diagrams, figures, and

examples that we discuss in class will come directly from the textbook. This is intentional; it provides you with another explanation for the material that we cover in lecture. However, I may use figures from the primary literature and other textbooks as well. For each unit you will analyze a case-study that will enhance the learning experience by forcing you to apply your knowledge and understanding to solve a practical problem related to topics that we are covering in lecture.

Class Etiquette: It is fully expected that you will behave in a manner consistent with the fact that you are a privileged student at an institution of higher learning that “seeks to be known as a university recognized for academic excellence and commitment to the cause of Christ.” Accordingly, if you engage in activity that interferes with the attempt to promote academic excellence (either your own or that of your classmates) or is inconsistent with the mission of Mississippi College, you will be asked to leave the class and you could receive a reduction in your final course grade. **The use of cell phones during class is forbidden.**

Academic Honesty: 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 therefore, 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>

Attendance: Attendance at all lecture sessions is expected. In accordance with the attendance policy, “cumulative absences may result in a lowered grade or loss of credit for the course.” Failure to attend lecture on a regular basis will, almost certainly, adversely affect your ability to perform well on exams and consequently reduce your final grade; missing class is *not* advised. Likewise, “tardiness is also subject to penalty.” In the event of an unavoidable absence, *you* are responsible for obtaining missed notes, assignments, or other relevant information disseminated during class time.

Exams: There will be four lecture exams as indicated on the exam schedule below. The exams will primarily cover the material discussed in class. However, anything we cover in lecture, anything that you are assigned to read, or anything related to a case study may be on the exam. You should be prepared to demonstrate your knowledge and understanding of the topic and your ability to apply your knowledge/understanding to solve problem-based questions. Each exam will be cumulative (i.e. material from all of the previous units may appear on each exam).

Quizzes: You will have a quiz at the beginning of class on Tuesday. It will be focused on the material from the previous week but it may also include anything that we have covered up to that point in the semester. Your 10 highest quiz grades will be factored into your final grade.

Case Studies: At some point during each unit you will receive a case study that is related to the topics that are being covered in the current unit. At the end of the unit, you will be tested on the material covered in the case study.

Policy regarding missed exams and quizzes: If you miss an exam due to illness or some other event that constitutes a legitimate, excused absence then you may take a make-up exam on a designated exam make-up date. You must provide a written excuse justifying your absence. You cannot make-up a missed quiz.

Grading: Each exam will be graded on a 100 point scale. This means that your exam grade will be determined by dividing the number of points you get correct by the total number of points on the exam. For example, 90 points correct out of a possible 112 points would result in an exam score of 80.36. I will post grades on the Moodle Grade Book. Each of your individual grades will contribute to your final grade in the following way:

Exams 1-3	50% (16.67%/exam)
Exam 4	25%
Quizzes	10%
Case Study Exams	15%
TOTAL	100%

Your final numeric grade will correspond with a letter grades as follows:

Percent Grade	Letter grade
90-100	A
80-89.999	B
70-79.999	C
60-69.999	D
<60	F

Early Alert System: Mississippi College has adopted the practice of finding students early in the semester who may be exhibiting behaviors that could ultimately have a negative impact on their academic progress. These behaviors are often called “red flag” behaviors and include, but are not limited to, excessive absences, poor test grades, and lack of class participation or evidence of non-engagement. Identifying these behaviors early gives the instructor the opportunity to raise the “red flag” on behalf of a particular student so that the student can take the appropriate action to redirect his/her progress. The system alerts the student, the student’s advisor, and the Office of Student Success.

These messages are intended to help a student recognize an area of concern and to encourage him/her to make some choices to improve the situation. When a student receives an Early Alert message, the student should quickly make an appointment to talk with his/her professor about the situation. Also, students can make full use of the Office of Student Success to set academic goals and connect to campus resources.

Special Accommodations: 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 on the 4th floor of Alumni Hall) or they may be contacted via email at mbryant@mc.edu . You may also reach them by phone at **601-925-7790**. **Dr. Morgan Bryant is director of MC Student Counseling Services.**

Tentative Lecture Exam Schedule*

Exam 1 – February 13

Exam 2 – March 6

Exam 3 – April 10

Final Exam (Exam 4)– Saturday, May 3 – 8:00 – 11:00

*The exact date of the exams will be determined as we move through the course.

Miscellaneous: If you are having any problems with the course *please do not hesitate to talk with me* (sooner rather than later). I will be glad to help, if I can. You can drop by my office anytime but it's best if you make an appointment to ensure that I will be there.

Disclaimer: The policies described in this syllabus, the date scheduled for each topic and exam (excluding the final exam), and the individually listed topics, ***are subject to change***. In the event of a change I will make an announcement in class, post an announcement on the Forum page of Moodle, and send an e-mail. Make sure your MC e-mail is functional and that you check it on a regular basis for class-related information!