

Biol 213: Cell Structure and Function

Lecture Syllabus: Section 001 (TR, 12:00 – 1:15 pm)

Spring 2015

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Course Coordinator: Dr. C. Madden

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Required Texts:

Lecture text: *Life: The Science of Biology*, by Sadava et al, 10th edition, **volume 1** (the entire textbook can be purchased).

Lab Manual: *Cell Structure and Function: A Laboratory Manual*, Fox & Madden, revised 3rd ed.

Schedule of Lectures

Week	Days	Topic	Chapter
1	Jan 20	Studying Life	1
	Jan 22	Studying Life, Small molecules and the Chemistry of Life	1, 2
2	Jan 27	Small molecules and the Chemistry of Life	2
	Jan 29	Proteins, Carbohydrates, and Lipids	3
3	Feb 03	Proteins, Carbohydrates, and Lipids	3
	Feb 05	Nucleic Acids and the Origin of Life	4
4	Feb 10	Nucleic Acids and the Origin of Life	4
	Feb 12	Exam 1	1-4
5	Feb 17	Energy, Enzymes, and Metabolism	8
	Feb 19	Energy, Enzymes, and Metabolism	8
6	Feb 24	Pathways that Harvest Energy	9
	Feb 26	Pathways that Harvest Energy	9
7	Mar 03	Pathways that Harvest Energy , Photosynthesis: Energy from Sunlight	9, 10
	Mar 05	Photosynthesis: Energy from Sunlight	10
8	Mar 10	NO CLASS - SRING BREAK	
	Mar 12	NO CLASS - SRING BREAK	
9	Mar 17	Cells: The Working Units of Life	5
	Mar 19	Exam 2	8, 9, 10
10	Mar 24	Cells: The Working Units of Life	5
	Mar 26	Cell Membranes	6
11	Mar 31	Cell Membranes	6
	Apr 02	Cell Communication and Multicellularity	7
12	Apr 07	Cell Communication and Multicellularity	7
	Apr 09	Exam 3	5, 6, 7
13	Apr 14	The Cell Cycle and Cell Division	11
	Apr 16	The Cell Cycle and Cell Division	11
14	Apr 21	From DNA to Protein: Gene Expression	14
	Apr 23	From DNA to Protein: Gene Expression	14
15	Apr 28	Recombinant DNA and Biotechnology	18
	Apr 30	Recombinant DNA and Biotechnology	18
16	May 07	Final Exam: 10:30am-1:15pm	Ex 4: 11, 14, 18 Ex 5: Comprehensive

January 27: Last day to drop (with no tuition penalty) and to add classes.

February 20: Final Drop Deadline with 67% tuition penalty.

COURSE DESCRIPTION

Biology 213 is the introductory course for biology majors. Its focus consists of the basic concepts and principles that apply to cellular structure and function, as indicated by the topics shown below. The major goals of this course are to familiarize students with the basics of cell biology, to prepare them for further study in this field, to help them hone their critical thinking skills and to promote the awareness of these biological principles in everyday life. Concurrent enrollment in a laboratory section is required.

The primary method of instruction will be classroom lectures based on material in the textbook. Additional course material will be posted on Blackboard (login: at <https://mymasonportal.gmu.edu> under the “courses” tab).

POLICY FOR EXAMS: THERE ARE ABSOLUTELY NO MAKE-UP EXAMS!

If you miss a lecture exam FOR ANY REASON (illness, doctor's appointment, car trouble, etc.), the score from the comprehensive final will be counted twice toward your earned points.... it will count once as the comprehensive final and once as the score for the exam that was missed. In essence, the comprehensive portion of the final serves as a make-up exam at the end of the semester. This option can be exercised only ONCE during the course - i.e. if you miss more than one lecture exam, the additional misses cannot be made up. Students who are enrolled in a particular section must attend lectures and take the exam ONLY during that time period. If you take an exam in another section without prior approval, you will receive a zero for your score. If a class in which an exam is scheduled is canceled for any reason, the exam will be given in the next regularly scheduled class. If the class meeting immediately prior to an exam date is canceled so that material to be covered on the exam is not finished in lecture, then the exam will be delayed one class meeting.

The lecture exams will consist of 50 multiple choice questions. The final exam will be in **TWO** parts, each worth the equivalent of a lecture exam. The first part will cover **NEW MATERIAL** presented after the third lecture exam and will be referred to as "Exam 4". The second part will be a **COMPREHENSIVE** exam that covers the same kind of material found on Exams 1, 2, and 3. Final exam grades (**both parts**) will **ALWAYS** count toward the final grade for the course. If a student earns a higher grade on the comprehensive portion of the final exam than on any one of the three lecture exams during the semester, the lowest score will be dropped and substituted with the higher score of the comprehensive portion of the final. Thus, if you do well on the comprehensive final, it can dramatically improve your course grade by eliminating a low score and counting a higher score twice. Individual exams will not be curved, but the overall lecture exam score may be curved.

NOTE: Exam 4 is part of the final exam, and will not be dropped!!

All lecture exams will begin at the scheduled time. Students arriving late to an exam will not be given any extra time to take the exam. **If a student arrives late, after another student has already handed in an exam and left the room, they will not be allowed to take the exam.**

GRADING

Three lecture exams + a two-part final = 5 exams	= 70% of the course grade
Seven unannounced in-class quizzes (2 dropped)	= 5% of the course grade
Laboratory grade	= 25% of the course grade
TOTAL	= 100%

- A = 92.5 – 100
- A- = 90.0 – 92.4
- B+ = 86.7 – 89.9
- B = 83.3 – 86.6
- B- = 80.0 – 83.2
- C+ = 76.7 – 79.9
- C = 70.0 – 76.6
- D = 60.0 – 69.9
- F = below 60.0

We will be using i>clicker for the in-class quizzes in this course. iclicker is a system that allows you to respond electronically to questions posed during class.

- 1) **Purchase** the iclicker from the bookstore. If you already have an iclicker for another class, you may use it for this class as well.
- 2) **Register** your iclicker at www.iclicker.com/registration
For registration, your **student ID** is your **GMU email username** (example: my GMU email address is gfondufe@gmu.edu, and my username is gfondufe). If you registered your iclicker in another class using your G number, you should register it again using your username!!

The **Clicker ID** is the serial number found on the back of your iclicker.

In order to receive credit for the quizzes, you should register your iclicker by the second week of classes.

- 3) **Make sure you bring your iclicker to class everyday – You will not be able to take the quiz without your iclicker. Paper answers are unacceptable!!**

ATTENDANCE AND CLASSROOM BEHAVIOR

Attendance is not required, but it will be to your benefit to come to class. Failure to attend the lecture tends to result in poor understanding of the material. The lecture schedule is subject to change based on progress. Any such changes in the material to be covered will be announced in class – it is therefore important that you attend every class, arrive on time, and remain in class until the session is over. Additionally, some very important points are often made in class that may not be presented in the textbook or in the PowerPoint slides.

You should read the assigned material ahead of time, and review the lecture PowerPoint slides before and after the lecture and review your notes.

Students are expected to treat one another, and the instructors with respect. Please while you are in class, turn off cell phones as well as other distracting electronic devices, and pay attention when someone else is talking.

GMU e-mail: All George Mason students are issued an e-mail account. I will communicate with students throughout the semester by email. Therefore, every student must activate and frequently check their GMU e-mail to ensure receiving messages in a timely fashion.

GMU ID

Please carry your GMU ID on you for each examination – All students are issued a GMU photo ID. Instructors are required to verify each student's identification.

HONOR CODE

The honor code protects the honest student, the reputation of George Mason University, and the value of degrees earned here. We should all support it both by personal honesty in all things and by refusing to tolerate dishonesty in others. Students may help one another with problems, but any graded work must be performed completely unaided. Students should report suspected cheating to the Honor Committee (phone 703-993-6209).

From the George Mason University Catalog:

“...Cheating and attempted cheating, plagiarism, lying, and stealing of academic work and related materials constitute Honor Code violations. To maintain an academic community according to these standards, students and faculty members must report all alleged violations to the Honor Committee. Any student who has knowledge of, but does not report, a violation may be accused of lying under the Honor Code.”

“Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.”