

BIOLOGY 103 INTRODUCTORY BIOLOGY I
COURSE SYLLABUS - FALL 2013

PLEASE READ THIS SYLLABUS CAREFULLY!!

COURSE COORDINATOR

Dr. D. Luther
Exploratory Hall Room 1216
Phone: (703) 993-5267
e-mail: dluther@gmu.edu
Office hours:

LECTURE INSTRUCTORS

Section 001 - Dr. G. Fondufe : gfondufe@gmu.edu	TR 9:00-10:15am IN103
Section 002 –Dr. J. van der Ham jvanderh@gmu.edu	MWF 1:30-2:20pm IN 103
Section 003 –Dr. E. Blum eblum@gmu.edu	TR 10:30-11:45pm ENT 178
Section 004 –Dr. E. Blum eblum@gmu.edu	TR 5:55-7:10pm IN103
Section 005 –Dr. D. Luther dluther@gmu.edu	MW 3:00-4:15pm ENT 80

REQUIRED TEXTS

Lecture Text: Campbell, Reece, Taylor, Simon and Dickey. 2011. *Biology: Concepts and Connections*, 7th ed., Pearson Benjamin Cummings, San Francisco.

Lab Manual: Luther. 2012. *Introductory Biology for Non-majors Laboratory Manual, Second Edition*. Hayden-McNeil Publishing, Inc., Plymouth MI.

Iclickers are required in this course. They are used to stimulate classroom participation, evaluate student understanding of material, and assess attendance. They can be purchased at the bookstore or online. New or used Iclickers are fine, but either way make sure to register it online for your class or classes that use the Iclicker. For more information about this product and how to register it see the following website. <http://www.iclicker.com/>.

COMPUTER SOFTWARE USED IN THIS COURSE

We will be using Pearson's MASTERINGBIOLOGY website for this course. You will be using this site to access learning activities, do homework assignments, and take online quizzes. If you purchased your books from the GMU bookstore, it comes packaged with an access code for the Masteringbiology.com website. If you purchased a used text or purchased your text from another source, you may need to purchase access to the masteringbiology.com site separately. It is possible to purchase a subscription to the masteringbiology.com website separately, but you will need it for graded assignments.

Basic requirements for Mastering

Windows XP, Vista, Windows 7 Supported browsers:* [Firefox](#) 13.0 (Windows XP, Windows 7) [Google Chrome](#) 19.0 [Internet Explorer](#) 8.0, 9.0 (Windows 7) [Safari](#) 5.0

Mac OS 10.6, 10.7 Supported browsers:* [Firefox](#) 13.0 [Safari](#) 5.0 [Google Chrome](#) 19.0

* Additional browser versions may also be supported. As newer versions become available, these are also tested as part of Pearson's commitment to quality. If any recent browser version is not supported, it will be noted in these system requirements. **What about tablets?** An app is available for the [Pearson eText on tablets](#). The Apple iPad is not currently supported by Mastering. Mastering assignments require Adobe Flash technology. (More about [Flash Player requirement](#))

Further information can be found at the following website:

<http://www.masteringbiology.com/site/support/system-requirements.html>

BIO 103 - DESCRIPTION AND OBJECTIVES:

Biology 103 is part of the University General Education program and, as such, fulfills, in part, the Natural Science requirement for a 2-semester laboratory science. The General Education program has four goals: 1) to ensure that all undergraduates develop skills in information gathering, written and oral communication, and analytical and quantitative reasoning; 2) to expose students to the development of knowledge by emphasizing major domains of thought and methods of inquiry; 3) to enable students to attain a breadth of knowledge that supports their specializations and contributes to their education in both personal and professional ways; and 4) to encourage students to make important connections across boundaries (for example: among disciplines; between the university and the external world; between the United States and other countries). It is the instructors' aim that we enable our students to achieve these goals!

Biology 103 is designed primarily for non-majors. The goal of this sequence is to provide the student with an understanding of, and appreciation for, the many facets of the biological world. Biology 103 begins with an examination of the diversity of life on earth. We then look at the structure and function of the basic unit of life, the cell. After a brief look at some of the basic energy transformations on which living things depend, we then go on to a study of genes and heredity; and finally, an overview of evolution. The laboratory exercises are designed to illustrate and expand on lecture topics.

Because this class fulfills (in part) the General Education Natural Science requirement for a 2-semester laboratory science sequence, students must be enrolled in both a laboratory and lecture section. No credit will be awarded to students who are not appropriately enrolled by the official deadlines.

The general education natural sciences courses engage students in scientific exploration; foster their curiosity; enhance their enthusiasm for science; and enable them to apply scientific knowledge and reasoning to personal, professional and public decision-making. To achieve these goals, students are challenged to 1) Understand how scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding, 2) Recognize the scope and limits of science, 3) Recognize and articulate the relationship between the natural sciences and society and the application of science to societal challenges (e.g., health, conservation, sustainability, energy, natural disasters, etc.) 4) Evaluate scientific information (e.g., distinguish primary and secondary sources, assess credibility and validity of information) 5) Participate in scientific inquiry and communicate the elements of the process.

It is strongly recommended that students successfully complete this course prior to taking BIOL 104.

GMU e-mail: All George Mason students are issued an e-mail account. Instructors often find it convenient or necessary to e-mail individual students, or the class as a whole. The George Mason in-house policy is to use only the GMU e-mail accounts. Therefore, it is necessary for the students to activate and frequently check their GMU e-mail to ensure receiving messages in a timely fashion. Be advised that GMU e-mail messages are considered official University correspondence; therefore, proper attention to and consideration of them must be given.

GMU ID cards: All students are issued a GMU photo ID card. Please carry this with you, especially during exams, as it may be necessary for instructors to verify each student's identification. Instructors are not required to honor identification cards other than those issued by the University.

ATTENDANCE: Regular attendance in both laboratory and lecture is crucial to successful completion of this course. Studies have shown that students who attend each class perform far better than those whose attendance is irregular. Therefore, students are expected to attend every lab and every lecture, to arrive on time, and to remain until class is dismissed. Many interesting, subtle and valuable points can be presented in class, which may not be presented in the text. **Therefore, students are responsible for being aware of all information and announcements presented in class, whether or not they are present.**

Students are also responsible for being sure they are properly enrolled in the course. If a student drops the course, he or she must see to the paperwork him or herself, and in a timely fashion. Instructors will not "automatically" drop a student who merely stops coming to class.

Laboratory absences will result in a grade of zero for that lab, unless permission is obtained from both the regular lab instructor and the instructor for the make-up lab. Only two such lab make-ups will be allowed in any semester, and only for compelling reasons. **Three or more unexcused absences in lab will result in a grade of zero for the entire laboratory portion of the course.**

For safety purposes, each student must heed all routine laboratory safety practices as well as all special warnings, precautions and instructions issued by the lab instructor.

STUDENTS WITH DISABILITIES: Both lab and lecture instructors are happy to make arrangements with students with disabilities. These arrangements, however, **must** be made through the Office of Disability Services (ODS) at 993-2474. Please contact both the ODS **and** your instructors as soon as possible for any accommodations you might need.

CLASSROOM BEHAVIOR: If something is not clear to you, by all means, ask questions! A well-timed question can help everyone in class, even the instructor. Students are asked to be respectful and considerate of one another. To that end, please

listen when someone else is talking, and **turn off all cell phones**, other noise-makers, as well as any other distracting electronics while in lecture or lab. If it is necessary to carry on activities that are not directly related to the material being presented in class, please conduct these activities elsewhere. In order to make the most effective use of both students' and instructor's time and energy, disruptive students may be required to leave the classroom.

CANCELED CLASSES: If an exam is scheduled for a day on which classes are canceled due to weather or any other reason, the exam will be given during the next scheduled class. Call (703) 993-1000 for official notification of canceled classes.

HONOR CODE: Students are required to read and adhere to the George Mason University Honor Code. Ignorance of the Honor Code is no excuse for infractions thereof. The GMU Honor Code is enforced in all Biology courses. All work done in lecture and lab (exams, data sheets, quizzes, etc.) must be the sole work of the individual student whose name appears on the assignment. Copying data, falsifying data, failing to give credit to referenced sources, cheating on exams and quizzes are among violations of the Honor Code, and will be dealt with most seriously.

GRADING: Two hourly lecture exams will be given, each worth 130 points. The final exam will be cumulative and worth 250 points. Hourly exams for classes meeting multiple times per week will be given on the last meeting of the week. In those lecture sections, which meet only once a week for 2.67 hr., the hourly exams will be given during the first portion of the class period; after a short break, the lecture will resume. For the hourly and final exams, students will be required to bring with them one or two sharpened pencils, a good eraser, a Scantron form No. 882-E, and a valid GMU ID card. The use by students of electronic devices of any type is prohibited during exams. The hourly and final exams will start promptly at the scheduled time. Students are expected to arrive on time to all exams! Students arriving late to an exam will be seated only at the discretion of the instructor, and will be given no extra time to take the exam. Once one student has finished and handed in an exam, no other, late arriving students will be allowed to take the exam - No Exceptions! Due to the large size of the lecture classes absolutely no make-up exams, including the final exam, will be given to any student under any circumstances.

In addition to lecture exams, there will be 5 online homework assignments worth 20 points each. There will also be 100 points of in class participation points, which will be assessed using iclickers. The laboratory is worth a total of 290 points, bringing the course total to 1000 points. The total point breakdown is as follows:

Graded Material	Total Points	Grade
Midterm Exams (2)	260	980 - 1000 = A+
Online Homework (mastering biology) (5)	100	900 - 979 = A
In Class Participation (iclickers)	100	870 - 899 = B+
Laboratory	290	800 - 869 = B
Final Exam	250	770 - 799 = C+
	1000	700 - 769 = C 600 - 699 = D

LABORATORY POLICIES

Attendance: Punctual attendance is required in every lab, and is essential for proper understanding of the material. **Three unexcused absences from lab will result in a total grade of zero (0) for the entire lab portion of the course grade (a loss of 290/1000 points).**

Because there can be hazards associated with some laboratory procedures, equipment, and chemicals, all students must follow standard safe laboratory practices, as well as any particular precautions and instructions issued by the lab instructor. All students are expected to participate in routine clean-up of their lab space, and to be cooperative and considerate of their fellow students who will be using such space after them.

Lab Make-Ups: If a student unavoidably misses a lab, it **may** (or it may not!) be possible to make up the missed lab in another section during the same week. A make-up must be approved by both instructors. Any instructor may refuse to allow a student to make-up in his or her lab if the lab is already at capacity. If a make-up is allowed, the student must take the quiz and follow all rules and instructions of the "host" instructor. It is the student's responsibility to see that all graded material is transmitted to the instructor of record. A student will be permitted only 2 make-ups per semester.

Lab Pre-Reading Assignments: A 5-point assignment should be completed before arriving at the laboratory and should be handed to the instructor at the beginning of the laboratory. Late assignments will not be accepted. Pre-reading assignments will not be accepted if the student doesn't also participate in the laboratory exercise.

Lab Data Sheets: A Data Sheet, located at the end of each Lab Manual exercise, will be collected by the lab instructor at the beginning of the next laboratory exercise. Each assignment will be worth 20 points.

Other Laboratory Assignments: Based on the data that you collect during the second laboratory exercise you, along with your laboratory partners will research, organize, and give an oral presentation to the rest of the students in your laboratory section. You will be provided with a grading rubric, which the instructor will use to grade your oral presentation. The oral presentation is worth 15 points. At the end of laboratory 9 you are asked to work with your laboratory group to choose a case study, discuss it, research it, and present a short oral presentation the next week in lab based on your results. The case study oral presentation is worth an additional 5 points beyond the normal amount of points given for the data sheets and questions.

WHERE TO GET HELP! Biology is a fascinating subject, but one which some students find daunting. If you find yourself having any difficulties in this course, see your instructor (lab, lecture, or both) at the outset. All instructors have posted office hours, during which appointments are not necessary. In addition, many instructors may be able to meet students outside of their posted hours in order to accommodate student schedules. It is the instructors' job to provide all the help they can to students; it is the students' job to ask for individual help when they need it.

Much of the material in Biology 103 builds on material covered previously in the semester, therefore it is necessary to have a good understanding of one concept before moving on to the next. If you feel your understanding is inadequate; if you feel you are getting "lost," **see your instructor immediately!!** We are here to help!

The University Writing Center (<http://writingcenter.gmu.edu> Phone 3-1200) can be of great value in writing the short genetics paper. The staff can help with organization, grammar, spelling, and other aspects of English usage for the paper. They may not, however, research or write the paper for you!

The Counseling Center (Student Union I, Rm. 364; www.gmu.edu/departments/csdc Phone 3-2380) has valuable programs and workshops to help with many aspects of both academic and personal life. From strategies for successful note-taking to time-management to inter-personal relationships, there are counselors and workshops that can help with many of the circumstances you may encounter during college life.

Many students find joining study groups with fellow classmates useful and enriching both academically and personally. Learning outside the classroom may be the most important learning of all! Make use of the many rich academic and personal resources available at Mason!

Biology 103
Lecture and Lab Schedule – Fall 2013

Week of:	Lecture Topic	Text Chapter(s)	Lab Exercise
Aug. 26	Introduction	1	Check-In; Safety; # 1 Hypothesis Testing
Sept. 2	Species and Classification	Ch. 14 and 15.7-16	NO LABS
Sept. 9	Vertebrate Diversity	19	# 2 Animal Diversity
Sept. 16	Plant Diversity EXAM I	17	# 3 Tree Diversity and Phylogeny
Sept. 23	Basic Chemistry; Biochemistry	2, 3	#4 Reading and Assessing Data
Sept. 30	Cell Structure	3, 4	# 5 Cell Structure Function and Diversity
Oct. 7	Membranes and Enzymes	5	# 6 Enzyme Activity
Oct. 14	Membranes and Enzymes	5	NO LABS
Oct. 21	Cellular Respiration	6	#7 Antibiotic Resistance I
Oct. 28	Photosynthesis EXAM II	7	#8 Antibiotic Resistance II
Nov. 4	Mitosis, Meiosis	8	# 9 Photosynthesis and Gas Exchange
Nov. 11	Mendelian Genetics	9	# 10 Mitosis and Meiosis
Nov. 18	DNA	10	# 11 Genetics and Human Inheritance
Nov. 25	Evolution of Populations	13	Thanksgiving Break; NO LABS
Dec. 2	Wrap-up and Review for Final Exam		Oral Presentations

Biology 103 Final Exam Dates, Fall 2013

Section 001 - December 12, 7:30 AM– 10:15 AM

Section 002 - December 11, 1:30 PM– 4:15 PM

Section 003 - December 17, 10:30 AM– 1:15 PM

Section 004 – December 12, 4:30PM – 7:15 PM

Section 005– December 16, 1:30PM – 4:15 PM

Instructors are not obligated, and indeed are discouraged from transmitting any type of grades to students via e-mail. Final course grades will be available to students via Patriot Web within 48 hours of the final exam.

Lecture Section _____ Lecture Instructor _____

Lecture Instructor's Office Hours _____ Lecturer's e-mail _____

Lab Section _____ Lab Instructor _____

Lab Instructor's Office Hours _____ Lab Instructor's e-mail _____

Safety and Attendance Reminders !!

No food or drink may be brought into the lab, or consumed there, unless part of the laboratory exercise.

No high heels, bare feet, sandals, or open-toed shoes; no bare midriiffs, shorts, sleeveless shirts in the lab.

Report to your instructor any unsafe conditions you notice. Follow all safety precautions given by your instructor.

Be on time and prepared! Quizzes are given at the beginning of lab!

Ask questions to clarify any procedure or principle you are uncertain of.

Permission to make up a lab must be obtained by both instructors. Only 2 make-up's allowed per semester.

Unexcused absences in 3 or more labs causes the loss of all lab points (**eek!**).