

BIO 11 Winter 2020

Emerging Infectious Diseases: How Microbes Rule the World

Class meets in LSC 201: M, W, F 12:50 PM – 1:55PM. The x-hour is Tu 1:20 – 2:10 PM and will be used throughout the term.

Professor

Mary Lou Guerinot	325 LSC	Office Hours:	Mon 4:00 -6:00 PM Tues 2:15 – 4:15 PM Thurs 11:00 AM -noon
C. Robertson McClung	323 LSC	Office hours:	Mon 2:00 - 4:00 PM Tues 10:00 AM -noon Thurs 4:00 – 5:00 PM

Overview

Biology 11 is an introductory course for all students interested in pursuing study in biology. There are several offerings of Bio 11 each year. Each is designed to provide a synthetic overview of the life sciences and to introduce the fundamental ideas, processes, and theories on which the modern life sciences are built. Different offerings of Biology 11 have different themes that the instructors have chosen to introduce fundamental concepts and develop a perspective on the life sciences. Bio 11 has two main goals. The first is to stimulate interest in the science of life. The second is to introduce you to problem solving and encourage critical thinking in the life sciences.

Readings

Required:

Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It. (Gina Kolata, 1999, Simon & Schuster, New York, ISBN-13: 978-0743203982; ISBN-10: 9780743203982). Available at Amazon.com and at other fine booksellers.

Readings from the primary literature will be assigned throughout the term and will be available via Canvas and are most easily accessed through the course calendar page.

Canvas

We have set up a Canvas site for Bio 11. The specific reading assignments for each class, as well as PowerPoint presentations, will be available.

Lecture Recordings

We will be putting **Echo 360** lecture recordings onto Canvas. However, if the technology fails, which it invariably does, some lectures may not be recorded.

Note Regarding Use of Materials Posted to Canvas

ALL materials on our Canvas site, including the recorded lectures, may not be posted on another website, broadcast, or distributed in electronic or print form to anyone not enrolled at Dartmouth College. Redistributing this material violates fair use, copyright, and privacy rights of the instructors and your fellow classmates. Thank you for understanding!

Assessment of Your Academic Performance

We will have 4 quizzes during class period. These are indicated on the syllabus and on the course calendar page in Canvas. Quizzes will account for 67% of your overall grade in the class. The first quiz will cover less material than the remainder, and accordingly will be worth 10%; Quizzes 2-4 will each be worth 19%. Quizzes will focus on the topics covered in the preceding lectures, up to and including the preceding Friday. Material covered on a Monday before a quiz will be covered on the following quiz, to give you time to assimilate and reflect upon the material. However, note that as the course progresses, we will take opportunities to link each week's topics with earlier ones; these connections will be reflected in the quizzes. 28% of your grade will be based on your performance on the final exam. The final exam will cover new material presented since the last quiz. As well, it will emphasize major concepts, integration and synthesis of all course material. The final 5% of your grade will be based on your digital poster.

Here are three important points about grades in Bio 11:

- [i] A grade of 90% or above will always be at least an A minus. No one is ever penalized for learning what we teach them! Thus, it is entirely possible for everyone in the class to receive a grade of A minus or better. However, our experience suggests to us that this is not likely.
- [ii] If you achieve a final grade of at least 50% you will not fail the course. That is, you will receive a grade of at least D.
- [iii] The median grade of Bio 11 will mostly likely be a B. That means if the median numerical score for the course were 62%, then a grade of 62% is a B. However, if the median numerical score is 94% then the median letter grade for the course will be an A or A- (see rule [i] above).

Quizzes, Exams, and Grading Policies

The following points summarize the grading procedures with respect to quizzes and exams:

- [1] We disassemble the exams for grading: For example, Prof. Guerinot might grade page 1 while Prof. McClung grades page 2. To safeguard against the loss of a page during grading, we routinely scan all quizzes and exams before grading them.
- [2] After the quiz or exam has been graded, a copy of the answer key will be posted on the Bio 11 Canvas site. Review this answer key carefully and be sure to understand any errors in, or omissions from, your answers.
- [3] If, after reviewing your answers and comparing them to the posted answer key, you find an arithmetic error or you feel a question has been incorrectly graded, you must type up why you think so on a separate sheet (**do not write on the quiz or exam**) and hand it in along with your quiz/exam by Tuesday of the following week (i.e., Tues before the next Quiz) to either Professor McClung or Professor Guerinot. We are happy to go over questions with you during office hours, but **all re-grade requests must be in writing**. Please also note that **any alteration of the answers between the time when the graded papers were returned to you and the time when the paper was submitted for regrading constitutes a breach of the Academic Honor Principle (see next point)**.

Academic Honor

Academic honesty is essential. The following is quoted directly from the Dartmouth College Academic Honor Principle: "Fundamental to the principle of independent learning are the requirements of honesty and integrity in the performance of academic assignments, both in and out of the classroom. Dartmouth operates on the principle of academic honor, without proctoring of examinations. Any student who submits work which is not his or her own, or who commits other acts of academic dishonesty, violates the purposes of the College and is subject to disciplinary actions, up to and including suspension or separation." The complete text of the Academic Honor Principle: <https://student-affairs.dartmouth.edu/policy/academic-honor-principle>. Please read the Honor Principle carefully; **you** are responsible for knowing and understanding the Honor Principle and adhering to its letter and spirit. The Faculty Handbook of Dartmouth College states explicitly that any faculty member who detects a violation of the Honor Principle **must** refer it to the Committee on Standards. Being found in violation of

the Academic Honor Principle can result in your suspension for multiple terms, or, in the most extreme cases, separation from the College.

There are a number of situations in which a student in Bio 11 might find themselves tempted to violate the Academic Honor Principle. These situations include (but are not limited to) the following:

a) Quizzes and examinations must be completed without reference to materials other than those provided with the exam paper and must be completed without communication with anyone or anything else, including any paper or digital resource such as the internet or a phone. The only permissible exception is that students may request clarification of any question from the course instructor who is present expressly for that purpose. The answers that you provide must be entirely your own work.

b) Our policy permits the re-submission of quizzes and exams for potential error correction by the instructor. Any alteration of the answers between the time when the graded papers were returned to the student and the time when the paper was submitted for re-grading constitutes a breach of the Academic Honor Principle. As noted above, in order to safeguard against the loss of a page during grading, we routinely scan all quizzes and exams before grading them. This makes detection of any alteration to an answer submitted for potential error correction simple and indisputable.

Note to Students with Physical or Learning Disabilities

We encourage students with learning, physical, or psychiatric disabilities that may need special classroom accommodations to make an appointment to see Professor Guerinot or Professor McClung by the end of the first week of the term. All discussions will be confidential, although we may need to consult the Student Accessibility Services office to discuss implementation of special requests. Students requiring disability-related academic adjustments or services must consult the Student Accessibility Services (SAS) office (Carson Suite 125, student.accessibility.services@dartmouth.edu). Once SAS has authorized adjustments or services, we will need to view the originally signed SAS Services and Consent form and/or a letter on SAS letterhead. If you have questions about whether you qualify to receive academic adjustments or services, please contact the SAS office directly. All discussions will remain confidential.

Mental Health

We recognize that the academic environment at Dartmouth is challenging, that our terms are intensive, and that classes are not the only demanding part of your life. There are a number of resources available to you on campus to support your wellness, including:

your undergraduate dean (<http://www.dartmouth.edu/~upperde/>),
Counseling and Human Development (<http://www.dartmouth.edu/~chd/>),
and the Student Wellness Center (<http://www.dartmouth.edu/~healthed/>).

We want you to be aware of these resources and encourage you to use them as needed.

Religious Observances

We recognize that some students may wish to take part in religious observances that fall during the term. Should you have a religious observance that conflicts with your participation in the course, please speak with Professor Guerinot or Professor McClung.

Daily Schedule

Jan 6	Mon	What is an infectious disease? History of Microbiology	MLG
Jan 8	Wed	Principles of Epidemiology	MLG
Jan 10	Fri	Using mathematical models to study infectious diseases	MLG
Jan 13	Mon	Main factors responsible for emerging infectious diseases	CRM
Jan 14	Tues	Review for Quiz #1	
Jan 15	Wed	Quiz #1 (covering lectures on Jan 6-10)	
Jan 17	Fri	Basics I	CRM
Jan 20	Mon	Martin Luther King Day – no class	
Jan 21	Tues	Basics II	CRM
Jan 22	Wed	Bacteria/Archaea/Viruses	MLG
Jan 24	Fri	Immunology and Vaccines Basics	MLG
Jan 27	Mon	Evolution	CRM
Jan 28	Tues	Review for Quiz #2 (covering lectures from Jan 13-24)	
Jan 29	Wed	Quiz #2	
Jan 31	Fri	Ecological Considerations: Lyme Disease as an example	CRM
Feb 3	Mon	Global Climate Change: cholera as an example	CRM
Feb 4	Tues	TB	MLG
Feb 5	Wed	TB	MLG
Feb 7	Fri	SARS, MERS, and the role of travel and trade in EIDs	CRM
Feb 10	Mon	Influenza	MLG
Feb 11	Tues	Review for Quiz #3.	
Feb 12	Wed	Quiz #3 (covering lectures from Jan 27 - Feb 7)	
Feb 14	Fri	Discussion of the book <i>Flu</i> by Gina Kolata	MLG/CRM
Feb 17	Mon	Ebola I	CRM
Feb 18	Tues	Ebola II	CRM
Feb 19	Wed	Zika	CRM
Feb 21	Fri	Guest lecturer – Dr. Michael Mina '06: Measles	
Feb 24	Mon	HIV I	MLG
Feb 25	Tues	Review for Quiz #4	
Feb 26	Wed	Quiz #4 (covering lectures from Feb 10 - 21)	
Feb 28	Fri	HIV II	MLG
Feb 29	Sat	Digital poster due 11:59 PM	
Mar 2	Mon	Malaria I	CRM
Mar 3	Tues	Movie: Contagion (106 minutes)	MLG/CRM
Mar 4	Wed	Malaria II: impact on human population genetics	CRM
Mar 6	Fri	Wrap Up	MLG/CRM
TBD	TBD	Review Session	
Mar 11	Wed	FINAL EXAMINATION 11:30 AM (covering lectures from Feb 24-Mar 6 and a course overview)	