BIOLOGY 46 – MICROBIOLOGY – FALL 2019

SEPT 16 M	Introduction to the Microbial World	CN	1
SEPT 18 W	Bacterial Structure & Function I	GO'T	2.1-2.10
SEPT 20 F	Bacterial Structure &Function II	GO'T	2.11, 2.13
SEPT 23 M	Growth I	CN	3.1; 5.9-5.17; 17.11-17.12
SEPT 25 W	Growth II	CN	5.1-5.8, 7.1-7.3
SEPT 27 F	Bacterial Metabolism I	GO'T	3.3-3.4, 3.6-3.12
SEPT 30 M	Bacterial Metabolism II	GO'T	22.3-22.5
OCT 2 W	Bacterial Pathogenesis: Gram-Negative Bacteria	GO'T	25.1-25.3, 25.8
OCT 4 F	Multicellular Microbes	GO'T	7.9, 15.17-15.18, 11.11, Fig. 11.32
OCT 7 M	Gram-Positive Bacteria: Development	GO'T	16.6-8, 24.9, 25.2, 25.6-7, 27.10, 29.9, 30.1-3, 30.9, 31.8-9, 32.8-9, 32.13
OCT 8 T	**Midterm 7 PM**		**Note Evening Exam**
OCT 9 W	Gram-Positive Bacteria: Toxins	GO'T	
OCT 11 F	Phylogeny and Genomics	CN	13.1-13.10
OCT 14 M	Fungi	RC	18.1-18.2; 18.8-18.13
OCT 16 W	Fungi	RC	33.1-33.2
OCT 18 F	Antibiotics	CN	28.10-28.12; 7.10
OCT 21 M	Microbiome	CN	9.8, 24.1-24.2, 24.10-24.11
OCT 23 W	Microbial Ecosystems	CN	20; 23.9
OCT 25 F	Nutrient Cycles	CN	21.1-21.4; 21.8; 23.12-13
OCT 28 M	Symbioses	CN	23.1-23.5,
OCT 29 T	**Midterm 7 PM**		**Note Evening Exam**
OCT 30 W	Food and Industrial Micro I	CN	22.6-9
NOV 1 F	Food & Industrial Micro II Micro Lunch	CN	32.6
NOV 4 M	Field Trip		
NOV 5 T	Introduction to Virology	DL	Chapter 8, 10.1
NOV 6 W	Emerging infectious diseases	ET	10.8
NOV 8 F	Viruses with RNA genomes	DL	10.6
NOV 11M	Viruses with DNA genomes	DL	10.9, 10.11, 30.8
NOV 13 W	Shifts, drifts, and other viral tricks	DL	p873 (SARS), 29.7, 30.12
NOV 15 F	Epidemiology and Public Health	CN	29
NOV 18 M	Genetic Engineering/Synthetic Biol	CN	12.7-12
NOV 26 T	**FINAL EXAM 8 AM**		

MWF lecture meets in the 12 schedule position, from 12:50 – 1:55pm. The X-hour for this course is Tuesday 1:20 -2:10 PM. Currently, we have X-hours scheduled for November 5 for one of your virology lectures; and evening exams on Tuesday October 8th and Tuesday October 29th. Other X-hours may be used during the term.

CN Carey Nadell, Assistant Professor of Biological Sciences
LSC 326; 646-1525
http://www.nadell-lab.org

GO'T George O'Toole, Professor of Microbiology and Immunology
Remsen 202; 650-1248
http://www.dartmouth.edu/~gotoole/

RC Robb Cramer, Professor of Microbiology and Immunology
Remsen 213; 650-1040
https://geiselmed.dartmouth.edu/cramer/

DL David Leib, Professor of Microbiology and Immunology
Borwell 630E; 650-8616
http://dms.dartmouth.edu/leib/

We have a special guest lecturer as well, Professor Elizabeth Talbot, who will be speaking to the class November 6th about emerging infectious diseases.

Lab Instructor: Nicholas Sylvain

Graduate Teaching Assistant: Matthew Bond

The required text for the course is "Brock: Biology of Microorganisms", 15th Edition, by Madigan, Martinko, Bender, Buckley and Stahl. There is one copy on reserve at Dana Library. Earlier editions are okay to use, but note that the chapter assignments may not always align with those noted on the previous page, so you will have to double-check their correspondence.

Grading in the course will be based on:

2 Midterms	40% (each worth 20%)
Final	25%
Lab	35%

You are also required to participate in an oral presentation on a topic of current interest in Microbiology. More information will be provided on these presentations in lab.

Bio 46 Laboratory Manuals will be handed out during the first lab, but you can find a copy of the first lab on Canvas. LAB MEETS IN 206 LSC.

We have a Canvas site that will contain lecture outlines and/or lecture notes, any PowerPoint presentations, announcements and other useful items. You can also find the echo360 recordings of the lectures.

Bio 46 Laboratory Schedule

Lab Date	Laboratory Exercise
Week 1	
September 25	Light Microscopy/Microbiological Techniques: The Gram Stain, Wet Mounts & Streaking a Plate
Week 2	
October 2	Begin Unknown Identification
Week 3	
October 9	Unknown Identification continued; Discuss source for environmental unknown
Week 4	
October 16	Unknown Identification continued/ Begin Environmental Isolates
Week 5	
October 23	Unknown Identification continued/ Environmental Isolates continued;
Week 6	
October 30	API20E strips; Unknown continued/ Environmental Isolates continued Plaque assay
Week 7	
November 6	PCR; Antibiotic sensitivity tests; Unknown Identification continued/ Environmental Isolates continued; Oral Reports
Week 8	
November 13	16S rRNA sequence analysis; Coliform Counts; Oral Reports
November 19	**Lab reports due Tuesday Nov 19th by 5 PM**

Academic Honor Principle

The Dartmouth College Student Handbook states "Fundamental to the principle of independent learning are the requirements of honesty and integrity in the performance of academic assignments, both in the classroom and outside. Dartmouth operates on the principle of academic honor, without proctoring of examinations. Students who submit work which is not their own or who commit other acts of academic dishonesty forfeit the opportunity to continue at Dartmouth." There are a number of situations in which a student in Biology 46 might find him- or herself tempted to violate the Academic Honor Principle. These situations include (but are not limited to) the following:

a) Examinations must be completed without reference to written materials other than those provided with the exam paper and must be completed without communication with anyone else (the only permissible exception is that students may request clarification of any exam question from the course faculty and staff who are present expressly for that purpose). The answers that you provide must be entirely your own work.

b) Under certain circumstances, we may allow exams to be re-graded by the instructors. 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. To deter this practice, we photocopy exam pages.

c) Laboratory experiments are performed alone. The student misrepresenting the work of another as his or her own is in violation of the Academic Honor Principle.

Honesty is the foundation of the academic pursuit of knowledge. In recognition of this, the faculty and staff of Biology 46 will not overlook any violations of the Academic Honor Principle. Indeed, the Faculty Handbook of Dartmouth College states explicitly that College Faculty is obligated to report potential violations of the Academic Honor Principle to the Dartmouth College Committee on Standards.

NOTE:

Students with disabilities who are taking this course and may need disability-related classroom accommodations are encouraged to make an appointment to see Professor Guerinot as soon as possible.
We also encourage you to stop by the Academic Skills Center in Collis Center to register for support services.

We realize that some students may wish to take part in religious observances that fall during this academic term. Should you have a religious observance that conflicts with your participation in the course, please come speak with Professor Guerinot before the end of the second week of the term to discuss appropriate accommodations.

Sexual Misconduct and Title IX

At Dartmouth, we value integrity, responsibility, and respect for the rights and interests of others, all central to our Principles of Community. We are dedicated to establishing and maintaining a safe and inclusive campus where all have equal access to the educational and employment opportunities Dartmouth offers. We strive to promote an environment of sexual respect, safety, and well-being. In its policies and standards, Dartmouth demonstrates unequivocally that sexual assault, gender-based harassment, domestic violence, dating violence, and stalking are not tolerated in our community.

The Sexual Respect Website (sexual-respect.dartmouth.edu) at Dartmouth provides a wealth of information on your rights with regard to sexual respect and resources that are available to all in our community.

Please note that faculty members are obligated to share disclosures regarding conduct under Title IX with Dartmouth's Title IX Coordinator. Confidential resources are also available, and include licensed medical or counseling professionals (e.g., a licensed psychologist), staff members of organizations recognized as rape crisis centers under state law (such as WISE), and ordained clergy (see https://sexual-respect.dartmouth.edu/reporting-support/all-resources/confidential-resources).

Should you have any questions, please feel free to contact Dartmouth's Title IX Coordinator (Kristi.Clemens@Dartmouth.edu) or Title IX Office (TitleIX@Dartmouth.edu).