

**BIOL 45: Molecular Biology
Winter 2021**

Professor

Natasha Grotz

J Schedule

T/Th 10:20am-12:10pm, F 4:00pm-4:50pm

Office Hours

Office hours are by appointment; please e-mail me to schedule.

Textbook

Molecular Biology of the Gene, 7th ed. by James Watson *et al.*

Grading

Study Guides 1-4: 12%

Participation (includes recording reflections): 4%

Problem Sets 1-4: 56%

Paper Assignments: 1-3: 12%

Final Assignment: 16%

Consent to Record

(1) Consent to recording of course and group office hours

By enrolling in this course,

a) I affirm my understanding that the instructor may record this course and any associated group meetings involving students and the instructor, including but not limited to scheduled and ad hoc office hours and other consultations, within any digital platform used to offer remote instruction for this course;

b) I further affirm that the instructor owns the copyright to their instructional materials, of which these recordings constitute a part, and my distribution of any of these recordings in whole or in part without prior written consent of the instructor may be subject to discipline by Dartmouth up to and including expulsion;

(2) Requirement of consent to one-on-one recordings

By enrolling in this course, I hereby affirm that I will not under any circumstance make a recording in any medium of any one-on-one meeting with the instructor without obtaining the prior written consent of all those participating, and I understand that if I violate this prohibition, I will be subject to discipline by Dartmouth up to and including expulsion, as well as any other civil or criminal penalties under applicable law.

A Note Regarding Class Recordings

My plan is to record our class meetings via Zoom.

A Note About Technology

Class meetings will be held over Zoom (dartmouth.zoom.us), and assignments will be submitted electronically. I will try to anticipate and accommodate any technology constraints; if you are experiencing technology barriers that are affecting your ability to participate and complete the coursework, please contact me as soon as possible.

Canvas

The Canvas site for the course will contain PowerPoint slides used during lecture as well as recordings.

Honor Principle

In all work pertaining to this course, students are expected to obey the Honor Principle (<https://students.dartmouth.edu/community-standards/policy/academic-honor-principle>).

Honesty is the foundation of the academic pursuit of knowledge. In recognition of this, the faculty of Biology 45 will not overlook any violations of the Academic Honor Principle.

Student Accessibility and Accommodations

Students requesting disability-related accommodations and services for this course are encouraged to schedule a phone/Zoom meeting with me as early in the term as possible. This conversation will help to establish what supports are built into my course. In order for accommodations to be authorized, students are required to consult with Student Accessibility Services (SAS; [Getting Started with SAS webpage](#); student.accessibility.services@dartmouth.edu; 603-646-9900) and to request an accommodation email be sent to me. We will then work together with SAS if accommodations need to be modified based on the learning environment. If students have questions about whether they are eligible for accommodations, they should contact the SAS office. All inquiries and discussions will remain confidential.

A Note About Health

The academic environment at Dartmouth is challenging, our terms are intensive, and 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 (<https://students.dartmouth.edu/undergraduate-deans/>), Counseling and Human Development (<https://students.dartmouth.edu/health-service/counseling/about>), and the Student Wellness Center (<https://students.dartmouth.edu/wellness-center/>). I encourage you to use these resources to take care of yourself throughout the term and to come speak to me if you experience any difficulties.

Please note that if you are directly or indirectly affected by COVID-19 in a way that affects your ability to participate in the course, I encourage you to contact me as soon as possible so that we can work together to make sure you are aware of resources for assistance and so that we can implement any appropriate accommodations. If you are more comfortable, you can also reach out to your Dean.

Religious Observances

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.

Financial Difficulty

If you encounter financial challenges related to this class, please let me know.

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 (<https://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://dartgo.org/titleix_resources).

Should you have any questions, please feel free to contact Dartmouth's Title IX Coordinator or the Deputy Title IX Coordinator for the Guarini School. Their contact information can be found on the sexual respect website at: <https://sexual-respect.dartmouth.edu>.

1/7	Nucleic Acid & Protein Chemistry	pp 24-25, 32-33, 77-89, Ch 3, pp 121-129
1/12	DNA Replication	Ch 9
1/14	DNA Mutagenesis and Repair	Ch 10
1/19	Bacterial Transcription Section 1 Study Guide Due	pp 429-447
1/21	Bacterial Gene Control Section 1 Q & A	pp 615-630
1/23	No Class— Section 1 Problem Set Due	
1/26	Bacteriophage λ	pp 636-651
1/28	Techniques in Transcription Section 2 Q & A and Section 2 Study Guide Due	
1/30	No Class— Section 2 Problem Set Due	
2/2	Eukaryotic Transcription	pp 448-454
2/4	Eukaryotic Gene Regulation	pp 657-686
2/9	Chromatin	pp 220-249, 687-693
2/11	RNA Processing/RNA Silencing Section 3 Q & A and Section 3 Study Guide Due	pp 455-462, 467-477, 483- 486, 493-494, 711-721
2/13	No Class— Section 3 Problem Set Due	
2/16	Translation	Ch 15
2/18	Site Specific Recombination and Transposons	Ch 12
2/23	Paper Discussion Section 4 Study Guide Due	
2/25	Paper Discussion/Paper Assignment 1 Due Section 4 Q & A	
2/27	No Class— Section 4 Problem Set Due	
3/2	Paper Discussion/Paper Assignment 2 Due	
3/4	Paper Discussion/Paper Assignment 3 Due	
3/9	Paper Discussion/Final Assignment Due	

A note about due dates (all times are in EST):

- *Lecture recording reflections are due by 11:59pm the night before the scheduled lecture; in other words, the reflections for the recordings we will discuss on January 12th are due by 11:59pm on January 11th.*
- *Study Guides are due prior to the start of class on dates above; for example, Study Guide 1 is due before the start of class on January 19th.*
- *Problem sets are due by 11:59am on the indicated dates; thus, Problem Set 1 is due by 11:59am on January 23rd.*
- *All paper assignments are due before the start of class on the indicates dates.*