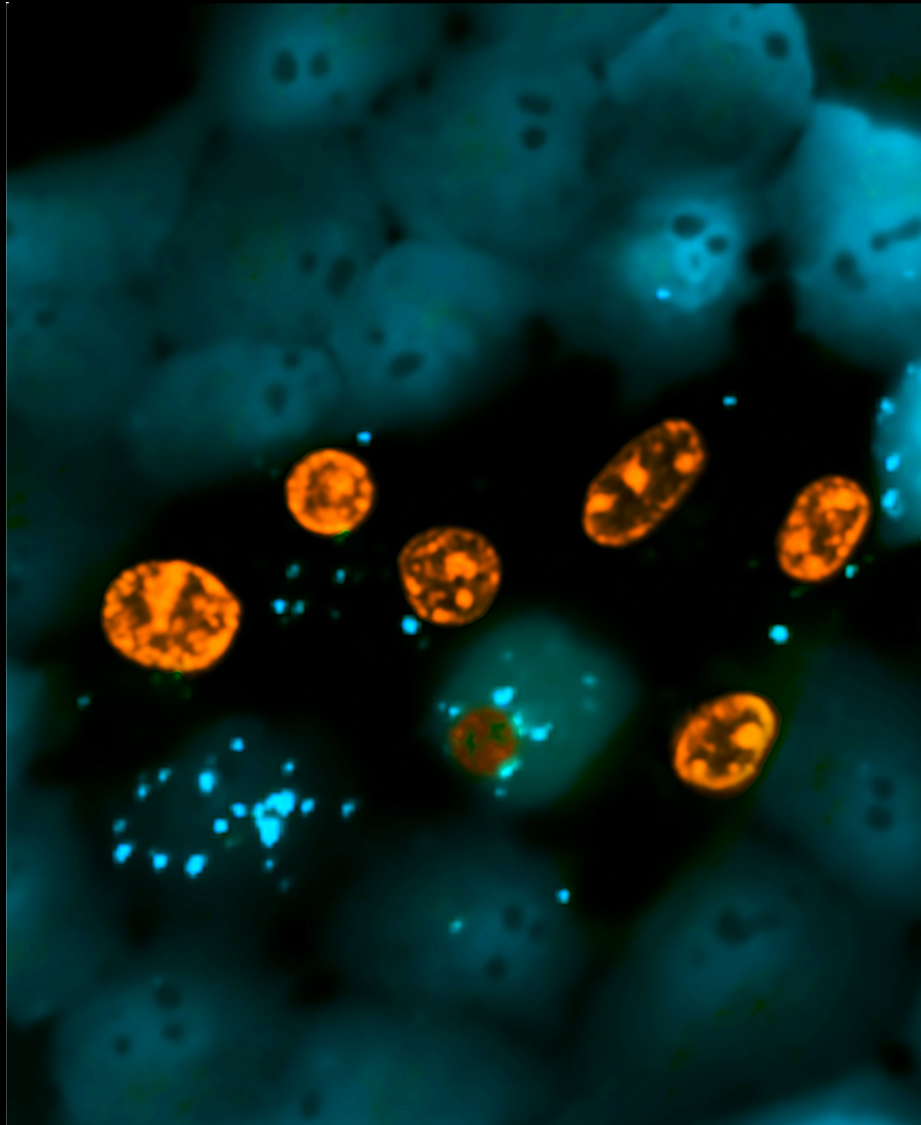


2026-2027 BCMB Program Handbook



This image shows epithelial cells undergoing a specialized type of death called ferroptosis which can propagate (Riegman et al., 2020) and also undergo lysosomal rupture (Das & Hombalkar et al., 2026) indicated by cyan puncta.

The cover photo presented is credited to Saloni Hombalkar from Michael Overholtzer's lab.



Weill Cornell Graduate School
of Medical Sciences



Memorial Sloan Kettering
Cancer Center

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Program Directors

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Program Coordinators

Biochemistry & Structural Biology

The Biochemistry & Structural Biology (BSB) program offers opportunities for advanced training in the application of biochemical, structural, biophysical and imaging methods, to address questions relating to biological processes and mechanisms.

Cell & Developmental Biology

The Cell & Developmental Biology (CDB) program comprises over 88 faculty members whose research focuses on a wide range of topics related to the control of normal and malignant cell growth, differentiation, and tissue development.

Molecular Biology

The Molecular Biology (MB) program provides unique research training to students in the molecular pathways involved in the control of nucleic acid transactions, gene expression, and cell growth and proliferation.

2026-2027 Rotation Dates

September 22nd - December 1st
January 5th - March 16th
March 30th - June 8th

Becoming a Doctoral Candidate- First Year Requirements

In their first year, BCMB Allied students must complete the program's core curriculum courses, attend BCMB Student Seminar, attend BCMB thesis defenses, and complete a minimum of three (3) lab rotations. Lab rotations are an important component of the students' first year in that they help him/her to decide on a research focus and select a thesis mentor, which is required by the end of the first year

Thesis Mentor

The choice of a mentor determines a student's program assignment: Biochemistry & Structural Biology, Cell & Developmental Biology, or Molecular Biology. The mentor helps the student select his/her Special Committee, consisting of the mentor and two other faculty members knowledgeable in the student's research field. The committee evaluates the student's research and progress through the rest of his/her WCGS career. Selection of the mentor and the committee typically occurs before the student starts their second year of study.

Admission to Doctoral Candidacy Examination (ACE)

In spring of the second year, the student takes the Admission to Doctoral Candidacy Examination (ACE), which includes a written component (a research proposal), and an oral examination in which the student defends the proposal and demonstrates general knowledge. Committees made up of program faculty members administer the written and oral ACE. When a student passes the ACE, she/he is a candidate for the PhD degree.

PhD Research and Degree

Within six months of passing the ACE (or before June 30 of their third year), the student must submit a two-page thesis project update to the Special Committee and meet with their committee. Thereafter, the student and the committee must meet together at least annually and students in year 5 and above must meet with their committee every six months. The student must submit a two-page progress report to their committee two weeks prior to each committee meeting. After passing the ACE and while working in the laboratory, the student must also complete two elective courses (two quarters), relevant to their thesis work and future goals. The culmination of the student's successful progression through the program is the final examination (the "defense") and certification by the Special Committee that the thesis represents an official piece of research that satisfies the requirements of the WCGS for the PhD degree.

Academic

TIMELINE

	Year 1	Year 2	Year 3	Year 4	Year 5
Core Curriculum	●				
Lab Rotations	●				
Attend Thesis Defenses	●				
Join Thesis Research Lab		●			
Admission to Doctoral Candidacy Examination (ACE)		●			
Lab Research		●	●	●	●
Complete Elective Course Requirements			●	●	
BCMB Student Seminars	●	●	●	●	●
Meetings with Special Committee			●	●	●
Final Defense					●

BCMB Educational Program 2026-2027

Core Courses

i) First Year - ***all students must complete the core sequence of:***

BCMB Student Seminar	Quarter I - Quarter IV
Biochemistry	Quarter I
Molecular Genetics	Quarter I Quarter II
Logic and Critical Analysis	Quarters II and III
From Genes to Cells	Quarters III and IV
From Cells to Organisms and Disease	Quarters III and IV
Responsible Conduct in Research (4 live sessions)	

ii) Course in Quantitative Biology - Introduction to Biostatistics (IDPT 9002 03)

All students enrolled in PhD programs within the Weill Graduate School of Biomedical Sciences are required to complete a course in Biostatistics. **For BCMB students, this course will be taken during the Spring of their second year in the program.**

iii) Elective Course Work

Before graduation, students must complete additional elective coursework prior to submission of their thesis. In addition to participation in the BCMB Student seminars, two additional electives must be fulfilled. These electives are generally taken in years 3 and 4 and requires prior approval by the program directors. Any special requests regarding electives must be approved by the program directors.

BCMB Student Seminar Course: Learning how to effectively communicate one's science is an important skill to acquire during PhD training. BCMB student seminars involve two research-in-progress presentations from BCMB graduate students, to be scheduled at the beginning of each academic year. BCMB students **are required** to attend in years 1-5 and **are required** to present a 15-minute talk in year 3 and a 30-minute talk in years 4-5, including time for questions. All other BCMB students are encouraged to attend, and opportunities to present are available to second year students on a volunteer basis.

BCMB Educational Program 2026-2027

Elective Courses: To fulfill the remaining two elective requirements, students must take courses on a subject relevant to their thesis project. Possible courses offered at Weill Cornell include Methods in Biophysics, Principles of Developmental Biology, and Cryoelectron Microscopy of Macromolecular Assemblies (NYSBC). Courses offered at other institutions, including Rockefeller University and the Cornell Tech Campus, can also be used to fulfill this requirement but require prior approval by the program directors and the registrar.

Students are required to complete the core curriculum during the first year and are advised to spread out the elective course requirements between their third and fourth years.

Students must register for all courses, including Student Seminar.

All core courses must be completed with a grade of high pass or better to remain in good academic standing (see "Good Standing Within the BCMB Program" below). All of the core courses cover material that is not usually taught at the undergraduate level and is crucial for success in science. "Logic and Critical Analysis", "From Genes to Cells" and "From Cells to Organisms and Disease" rely heavily on primary literature and classroom discussions. Active participation is expected and required to receive a passing grade in these courses. Failure to participate fully and obtain a High Pass or better will result in the review of a student's status by the program co-directors. Elective courses must be passed to count towards the BCMB allied graduate program's course requirements.

Courses taken prior to matriculating in the BCMB Program may not be used to substitute for any of the course requirements.

BCMB Educational Program 2026-2027

Laboratory Rotations

All students are required to complete three laboratory rotations and receive a “pass” from each rotation faculty member.

Rotation Periods are:

Fall Rotation: Sep 22nd – Dec 1st
Winter Rotation: Jan 5th – Mar 16th
Spring Rotation: Mar 30th – Jun 8th

Laboratory Rotation Policies:

Lab rotations are an important aspect of your first-year curriculum. It is a chance for you to learn new techniques, to demonstrate your curiosity for scientific research and reasoning, and to determine whether that particular lab is a good match for you. It is also a time for the rotation faculty mentor to evaluate your ability to do bench research and your understanding of the technical and theoretical aspects of the project and the broader set of questions being addressed in the lab.

You must inform the BCMB co-directors of each of your rotation choices. At the beginning of each rotation, you must electronically submit a beginning of rotation form called the "Lab Rotation Agreement" on which you and your rotation faculty mentor outline the goals and expectations of your rotation. At the end of each lab rotation, it is your responsibility to prepare a brief lab report. Your rotation lab report should summarize your work in a maximum of two pages of text, excluding figures and references. Please attach a front page (example provided at the end of this handbook) with your name and the signatures of your rotation mentor and first-year advisor (see later) to indicate their approval of your report. Reports should be completed and approved by the rotation mentor by the end of the rotation. These reports should be submitted to the first year advisors. Once approved and signed by the first year advisor, reports are then submitted to Vanessa Dodson's office, 1300 York Ave, room A-131. You must also forward an electronic version to Vanessa Dodson. At the end of the rotation, you will submit an end of rotation form called the "Lab Rotation Evaluation" on which the rotation faculty mentor will submit electronically their evaluation of your rotation. You should schedule a meeting with your rotation faculty mentor at the conclusion of the rotation to discuss your progress and for a critique of your performance. Submission of all three rotation lab reports is required to remain in good academic standing and to progress to the elective courses and the ACE exam I.

- i) It is expected that students will have chosen a thesis mentor by July 1st. The choice of mentor determines the student's Program assignment, (Biochemistry & Structural Biology, Cell and Developmental Biology or Molecular Biology). Students must inform Vanessa Dodson once they have chosen a thesis mentor.
- ii) Each lab is eligible to take a maximum of 2 students per year from within the BCMB Allied Program.

BCMB Educational Program 2026-2027

First Year Review

The progress of all 1st year students is reviewed by the program directors at the end of the first year and reported to the curriculum committee. If a student has encountered difficulties during the 1st year curriculum, leading to the student being placed on academic probation, the student's case will be re-viewed by the full curriculum committee. The main purpose of this review is to identify the strengths and weaknesses of each student, so that, if possible, the student and faculty can work together to remedy any deficiency in training. At the end of the review, the curriculum committee will make a decision regarding the resolution of the student's probation status, which can range from prescribing a course of action to remediate any evident weaknesses (examples include requiring the student to re-take courses or recommending that the student be dismissed from the program). The student will receive a formal letter describing the committee's decision, which will be placed in his/her graduate school file.

First Year Advisors and First Year Meetings

A selected group of faculty serve as first year advisors. They are available to assist the student and help make the first year go as smoothly as possible. While each student will be assigned to a first year advisor, they should feel free to contact any of the first year advisors for information, discuss possible rotations, problems etc.

First year meeting is held every two weeks (in the early evening) throughout the first year. Attendance by first year students is expected. During first year meeting, students will learn to present effective chalk talks. It is also an opportunity for students to raise concerns and to ask the Program Co-directors and first year advisors for information.

BCMB Educational Program 2026-2027

Good Standing in the BCMB Program

To remain in good academic standing in the BCMB Allied graduate program, students must achieve a grade of B or above (High Pass or Honors) in each required course and maintain a High Pass average (GPA of 3.0) or above in all course work. A grade of Low Pass or Unsatisfactory(UX) requires remediation; the student must re-register for the course in the subsequent year and re-mediate their deficiency as defined by the Course Director, to achieve a grade of High Pass or above. The BCMB program gives students a temporary waiver while they remediate and attempt to return to good standing. Failure to achieve remediation of a course leads to a review which can have one of three outcomes: (1) recommendation to the Dean for the student to be dismissed from the program, (2) allowances for a grade below High Pass, as long as the student maintains a GPA of 3.0 or above by graduation (i.e. it is balanced by honors grades), (3) the requirement can be waived at the discretion of the BCMB leadership after consultation with the Dean.

Completed rotation reports are required to remain in good standing with the BCMB Allied program. Students in the 2nd year or above are also required to have a thesis mentor to remain in good standing. Students in the 3rd year or above are required to present annually at a scientific meeting and to complete an annual Special Committee meeting by June 30th each year to remain in good standing. Students in year 5 or above are required to complete a Special Committee meeting every six months, by December 30th and June 30th each year to remain in good standing. If a student fails to meet the requirements for good standing, they may be placed on academic probation. Failure to meet the requirements for good standing leads to a programmatic review that can result in one of three outcomes: (1) recommendation to the Dean for the student to be dismissed from the program, (2) the program prescribes a course of action for returning to good standing, (3) the student be allowed immediately to continue to pursue a Ph.D. in the BCMB Allied Program.

BCMB Educational Program 2026-2027

Advance To Candidacy Exam

The current chair of the ACE committee is Kirk Deitsch. A student must be in good academic standing to take the ACE. The ACE is administered in two sections: a written exam and an oral exam. For the written exam, the student prepares a research proposal on a topic selected by the student and approved by the major sponsor / thesis advisor. The written proposal is reviewed by three WCGSBS faculty that have been nominated by the student to serve on their ACE Examining Committee, and reviews are returned to the student as a written critique. The oral exam tests the student's ability to respond to comments in the critique, as well as the student's general knowledge. The Examining Committee for the oral consists of four faculty members: the Special Committee (i.e., the research mentor and two additional faculty members) and a chairperson. Before taking the ACE, students must have completed the core sequence of courses. The ACE is taken during the Spring of the second year. The official description of the requirements and procedures for the ACE is contained in a separate document, "BCMB ACE Guidelines 2024" that will be provided to students upon completion of their first-year requirements.

Between six months after completion of the ACE and no later than June 30th of their third year, each student is required to convene her/his first Special Committee meeting (see below for composition of the Special Committee). In addition, the student is required to prepare a written document outlining their thesis progress to date. This document should be no longer than 2 pages, excluding illustrations and references. It must be submitted to the Special Committee members at least 2 week in advance of this meeting. At the meeting, the student should be prepared to discuss in depth the background (general and specific) of the project, approaches that will be taken, and what has already been accomplished. This meeting will serve as a mechanism to ensure that the student's thesis work is progressing. It will also serve to update the Committee with the student's project and to allow the committee to provide constructive comments. The 2 page document must be approved by the committee. A brief report will be completed by one of the committee members (not the thesis mentor) in LEARN for forwarding to the Program Directors. Completion of the post-ACE first Special Committee meeting is required to remain in good academic standing.

ACE Topic Choice

The topic is up to the student, with the following advisory considerations: It is the student's privilege to have flexibility and latitude in choice of the ACE topic. However, it is the student's responsibility to convincingly demonstrate independence of thought. The closer the ACE topic is to research projects previously conceived by the student's mentor or already being conducted in the host laboratory, the more difficult it may be to establish the independence of the student's thinking. However, it is often the case that the ACE is taken at a point when the thesis topic is not defined or the thesis topic that was initially chosen does not pan out. An independently-conceived ACE topic may give shape to or even become a thesis topic; this is welcomed.

BCMB Educational Program 2026-2027

The only restriction on topic choice is that all portions of the document must be written entirely independently from the student's mentor. While the student is encouraged to build on work previously conducted in the host laboratory, direct incorporation of specific aims, hypotheses, or conclusions from a previously written grant application from the mentor (or anyone else) is not allowed. The mentor must certify that the specific aims were developed and written independently, and that the content of the ACE proposal was not "lifted" from a pre-existing research plan. The student will be held responsible for all ideas expressed in the proposal, and will be expected to explain, justify, and defend all concepts described in the written document.

A suitable topic is one that incorporates experimentally testable models or hypotheses, is amenable to rational experimental design, and results in more than one predictable outcome for the experiments. Research topics that are seen as "fishing expeditions" or are not hypothesis-driven will generally not be approved.

As noted above, the thesis mentor head will be given the proposed specific aims page and the completed written proposal. For the student to proceed to the oral exam, the thesis mentor must attest that the specific aims and written proposal were prepared independently and that they reflect the original work of the student.

Special Committee

Once a thesis mentor has been agreed upon (which should occur by July 1), the student, in consultation with the mentor, forms a Special Committee composed of the thesis mentor and two additional faculty members. This committee acts to evaluate a student's research and should also serve as an informational resource to the student. Special Committee forms are available from the graduate office (Cornell A -131) or on the Graduate School Website.

A Program Chair (usually Dr. Kirk Deitsch) or a Program Co-director must sign these forms, which are then returned to Vanessa Dodson, who files them with the Dean's office. Any subsequent changes must be approved by a student's mentor and the appropriate Program Director and be indicated on the form on file in the Dean's office.

The Special Committee must meet at least once per year from year 3 through year 4, by July 1 and 5th year students and up must have a committee meeting every 6 months by January 1 and July 1 each year. Annual Special committee meetings are a requirement for remaining in good academic standing. For each Special Committee meeting (following the one that occurs within 6 months of completing the ACE), the student should prepare a 1-2 page written outline of progress and future goals. This must be submitted to all committee members prior to the meeting.

BCMB Educational Program 2026-2027

Requirements for Formal Presentations of Scientific Data

The ability to accurately and effectively present scientific data in a formal setting is vital to a productive scientific career. To encourage students to gain such experience, all students upon completion of their ACE must annually present original data at a formal scientific venue. This requirement can be fulfilled by presenting a Talk or Poster at the annual Vincent Du Vigneaud Memorial Symposium hosted by the Weill Cornell Graduate School, the annual BCMB Program Retreat held every Fall, various Departmental Seminar Series or at any National or International Scientific meeting. Fulfillment of this requirement must be verified at the student's annual special committee meeting. The student is required to submit to the special committee the abstract of the presentation.

Requirements for Submitting a Student Fellowship

All BCMB students are required to submit a fellowship application during their time in the WCGSBS. To qualify for this requirement, the fellowship application must include their writing a scientific proposal. Awarding of a fellowship is not required.

Anastasia Efthymiou in the graduate school office is available to provide lists of available fellowship opportunities and deadlines, to help with writing, editing, and submitting fellowship applications.

Academic Requirements for MD/PhD Students

MD/PhD students enter the Graduate Program following completion of:

- the Frontiers in Biomedical Science courses, which they take in the first two years of medical school,
- three lab rotations, during the summers preceding the first and second years of medical school and the summer after the second year of medical school.
- the first two years of the Medical School curriculum. MD/PhD students select their thesis laboratories and initiate their thesis research in the fall of their third year. During this year they also take four additional quarters of graduate courses, which they can take at either the Weill or the Rockefeller graduate schools. The ACE is administered to MD/PhD students in the Spring/summer of their third year. MD/PhD students must submit their Rockefeller Thesis Proposal (RTP) to both the MD/PhD office and the program coordinator at the Graduate School. All Weill Graduate School MD-PhD students must have a faculty member from the Rockefeller Graduate School on their special committee.

The only requirement of MD/PhD students that join the BCMB Allied program is attendance at the weekly BCMB Student Seminar Course and an annual presentation in this course for those in year 2 - 4 of their thesis research.

This course is required of our MD/PhD students because it equips the students with the knowledge and skills necessary to take their oral presentations to the next level, by improving their slide design, learning how to frame and effectively deliver their research story, how to pitch their talks at the correct level for the specific audience, as well as receiving constructive feedback from the course directors. This course is directed by and Lukas Dow and Rich Hite.

The following pages include schedules of the BCMB core courses for the Fall 2026-2027, to provide examples of the materials covered.

Core Courses:

- Biochemistry
- Molecular Genetics
- Genes to Cells
- Logic and Critical Analysis
- Cells to Organisms and Disease

*The From Cells to Organism and disease course schedule is from 2025-2026 but will be very similar to the 2026-2027 course schedule, but with different dates. The updated schedule will be provided to the students as it becomes available”.

BIOCHEMISTRY COURSE - FALL 2026

Director: Baran Ersoy - bersoy@med.cornell.edu; (415) 215 1555; Belfer Research Building Rm 628

TAs: 2nd Year:

1st Year:

Lecture	Date	Day		Lecturer	Time
TA	31-Aug	M	Basics / Protein biochemistry	TAs	9:30 AM - 11:00 AM
1	2-Sep	W	Protein-protein interactions	Jonathan Goldberg	9:30 AM - 11:00 AM
2	4-Sep	F	Mass spectrometry of polypeptides	Alban Ordureau	9:30 AM - 11:00 AM
	7-Sep	M	LABOR DAY		
3	9-Sep	W	Post-translational modification-mediated signaling	Christina Gladkova	9:30 AM - 11:00 AM
4	11-Sep	F	Membrane transport and fluxes	Melinda Diver	9:30 AM - 11:00 AM
5	14-Sep	M	Protein folding. Non-covalent forces	David Eliezer	9:30 AM - 11:00 AM
TA	15-Sep	T	Pymol workshop	TAs	3:00 PM - 4:30 PM
6	16-Sep	W	Enzymes: Why do they work?	Christopher Lima	9:30 AM - 11:00 AM
7	18-Sep	F	Reaction mechanisms: Pymol exercise	Christopher Lima	9:30 AM - 11:00 AM
	21-Sep	M	YOM KIPPUR		
8	23-Sep	W	Protein purification I	Stewart Shuman	9:30 AM - 11:00 AM
9	25-Sep	F	Protein purification II	Stewart Shuman	9:30 AM - 11:00 AM
10	28-Sep	M	Cryo-EM	Hite	9:30 AM - 11:00 AM
	30-Sep	W	OFF		
	2-Oct	F	RETREAT		
TA	5-Oct	M	Calculus	TAs	9:30 AM - 11:00 AM
11	7-Oct	W	Physical principles that govern chemical reactions	Andres Leschziner	9:30 AM - 11:00 AM
12	9-Oct	F	Ligand binding	Andres Leschziner	9:30 AM - 11:00 AM
TA	12-Oct	M	Basics of probability	TAs	9:30 AM - 11:00 AM
13	14-Oct	W	Thermodynamics I	George Khelashvili	9:30 AM - 11:00 AM
14	16-Oct	F	Thermodynamics II	George Khelashvili	9:30 AM - 11:00 AM
15	19-Oct	M	Glucose metabolism and cancer	Andrew Intlekofer	9:30 AM - 11:00 AM
16	21-Oct	W	Lipid metabolism	Baran Ersoy	9:30 AM - 11:00 AM
17	23-Oct	F	Fluorescence-based technologies	Christina Pyrgaki	9:30 AM - 11:00 AM
18	26-Oct	M	Quantitative imaging	Mary Teruel	9:30 AM - 11:00 AM
19	28-Oct	W	Biochemistry of lipids and membranes	Anant Menon	9:30 AM - 11:00 AM
20	30-Oct	F	Genomic tools and data analysis	Iestyn Whitehouse	9:30 AM - 11:00 AM
21	2-Nov	M	Proteins and nucleic acids	Christine Mayr	9:30 AM - 11:00 AM

* WGC 1305 York Ave (Same location as the orientation)

BB 413 E 69th Street (Belfer Research Building)

A-950 1300 York Ave (Medical School main entrance)

J [C218], 1300 York Ave (Medical School main entrance)

K [C220]

Molecular Genetics Course _ Fall 2026

Lecture number	Date	Confirmed
welcome	9/1/26 WELCOME	Course Directors
1	9/3/26 Advanced Genetic Approaches-1	Xiaolan Zhao
2	9/8/26 Advanced Genetic Approaches-2	Xiaolan Zhao
TA discussion	9/9/26 Discussion on lectures 1&2	
3	9/10/26 Meiotic recombination	Scott Keeney
4	9/15/26 RNAi	Eric Lai
TA discussion	9/16/26 Discussion on lectures 3&4	
5	9/17/26 CRISPR in nature and the lab	Naama Aviram
6	9/22/26 Genome modification & Genetic Concepts	Danwei Huangfu
TA discussion	9/23/26 Discussion on lectures 5&6	
7	9/24/26 Genome modification & DNA repair	Maria Jasin
8	9/29/26 Zebrafish genetics	Todd Evans
TA discussion	9/30/26 Discussion on lectures 7&8	
	10/1/26 NO LECTURE	
	10/1/26 MID_TERM BREAK -Exam Handout (exams cover lecture 1-8)	
9	10/6/26 Drosophila-1	Jen Zallen
	10/8/26 NO LECTURE	
10	10/13/26 Drosophila-2	Mary Baylies
TA discussion	10/14/26 Discussion on lecture 9&10	
11	10/15/26 Mouse genetics 1	Kat Hadjantonakis
12	10/20/26 Mouse genetics 2	Joo-Hyeon Lee
TA discussion	10/21/26 Discussion on lectures 11&12	
13	10/22/26 Cancer genetics	Andrea Ventura
14	10/27/26 Human Genetics	Elizabeth Ross
TA discussion	10/28/26 Discussion on lectures 13&14	
15	10/29/26 Epigenetics 1	Effie Apostolou
16	11/3/26 Epigenetics 2	Alexandros Pertsinidis
TA discussion	11/4/26 Discussion on lectures 15&16	
Review	11/5/26 Review Session	TAs and Course Directors
	11/6/26 FINAL_Exam Handout (exams cover lecture 9-16)	

Teaching Assistants

Sofia Neaher smn4003@med.cornell.edu
Sabrina Lin sal4043@med.cornell.edu
Sher Bahadur shb4025@med.cornell.edu
Jeyaram Ravichandran Damod: RavichaJ@mskcc.org

BCMB Student Seminar 2026-2027

DATE	PRESENTER	PRESENTER ROOM		TIME	FACULTY 1	FACULTY 1 EMAIL	FACULTY 2	FACULTY 2 EMAIL
Sep 4	Luke Dow	Rich Hite	Intro	4:00 - 5:00 PM				
Sep 11	5th year			4:00 - 5:00 PM				
Sep 18				4:00 - 5:00 PM				
Sep 25				4:00 - 5:00 PM				
Oct 2	NO CLASS	NO CLASS	NO CLASS	BCMB retreat?	NO CLASS	NO CLASS	NO CLASS	NO CLASS
Oct 9				4:00 - 5:00 PM				
Oct 16				4:00 - 5:00 PM				
Oct 23				4:00 - 5:00 PM				
Oct 30				4:00 - 5:00 PM				
Nov 6				4:00 - 5:00 PM				
Nov 13				4:00 - 5:00 PM				
Nov 20				4:00 - 5:00 PM				
Nov 27	NO CLASS	NO CLASS	NO CLASS	Thanksgiving	NO CLASS	NO CLASS	NO CLASS	NO CLASS
Dec 4	4th year			4:00 - 5:00 PM				
Dec 11				4:00 - 5:00 PM				
Dec 18				4:00 - 5:00 PM				
Dec 25	NO CLASS	NO CLASS	NO CLASS	Winter Recess	NO CLASS	NO CLASS	NO CLASS	NO CLASS
Jan 1	NO CLASS	NO CLASS	NO CLASS	Winter Recess	NO CLASS	NO CLASS	NO CLASS	NO CLASS
Jan 8	NO CLASS			4:00 - 5:00 PM				
Jan 15		NO CLASS	MLK	NO CLASS	NO CLASS	NO CLASS	NO CLASS	NO CLASS
Jan 22				4:00 - 5:00 PM				
Jan 29				4:00 - 5:00 PM				
Feb 5	NO CLASS			4:00 - 5:00 PM				
Feb 12		NO CLASS	President's Day	NO CLASS	NO CLASS	NO CLASS	NO CLASS	NO CLASS
Feb 19				4:00 - 5:00 PM				
Feb 26				4:00 - 5:00 PM				
Mar 5				4:00 - 5:00 PM				
Mar 12				4:00 - 5:00 PM				
Mar 19				4:00 - 5:00 PM				
Mar 26				4:00 - 5:00 PM				
Apr 2				4:00 - 5:00 PM				
Apr 9				4:00 - 5:00 PM				
Apr 16				4:00 - 5:00 PM				
Apr 23	3rd year			4:00 - 5:00 PM				
Apr 30				4:00 - 5:00 PM				
May 7				4:00 - 5:00 PM				
May 14				4:00 - 5:00 PM				
May 21				4:00 - 5:00 PM				
May 28	NO CLASS	NO CLASS	NO CLASS	Memorial Day week	NO CLASS	NO CLASS	NO CLASS	NO CLASS
Jun 4				4:00 - 5:00 PM				
Jun 11				4:00 - 5:00 PM				
Jun 18				4:00 - 5:00 PM				

TAs:

BCMB Program, Weill Cornell Graduate School of Medical Sciences

Core course 2026 - 2027

9.00 am - 11.00 am

Part I. From genes to cells

				email
1. Synthetic lethality, DNA repair and recombination				
30-Nov	M	John Petrini lecture - DNA repair		petrinij@MSKCC.ORG
1-Dec	T	John Petrini paper discussion		
2-Dec	W	Agne! Sfeir lecture - Telomeres		sfeirA@mskcc.org
3-Dec	Th	John Maciejowski paper discussion		
4-Dec	F	Jayanta Chaudhuri lecture - Recombination		chaudhui@mskcc.org
2. Telomeres, DNA replication				
7-Dec	M	Jayanta Chaudhuri paper discussion		
8-Dec	T	Dirk Remus lecture - DNA Replication		remusd@mskcc.org
9-Dec	W	Dirk Remus paper discussion		
10-Dec	Th	Agne! Sfeir lecture/paper discussion - Synthetic lethality and cancer		sfeirA@mskcc.org
11-Dec	F	Flex scheduling day		
3. Cell division, chromosomal instability, and nuclear organization				
4-Jan	M	Prasad Jallepalli lecture - Mitosis		jallepap@mskcc.org
5-Jan	T	Prasad Jallepalli paper discussion		
6-Jan	W	John Maciejowski lecture - Chromosomal Instability		maciejoi@mskcc.org
7-Jan	Th	John Maciejowski paper discussion		
8-Jan	F	Alexandros Pertsinidis lecture - Gene regulation and nuclear organization		PertsinA@mskcc.org
4. Transcription, chromatin				
11-Jan	M	Alexandros Pertsinidis paper discussion		
12-Jan	T	Iestyn Whitehouse lecture - Transcription		whitehoi@mskcc.org
13-Jan	W	Iestyn Whitehouse paper discussion		
14-Jan	Th	Yicheng Long lecture - Chromatin		yil4011@med.cornell.edu
15-Jan	F	Yicheng Long paper discussion		
5. RNA isoforms				
MLK day		NO CLASS		
18-Jan	M	Omar Abdel-Wahab lecture - RNA splicing		abdelwao@mskcc.org
19-Jan	T	Omar Abdel-Wahab paper discussion		
20-Jan	W	Christine Mayr lecture - RNA 3' end processing		mayrc@mskcc.org
21-Jan	Th	Christine Mayr paper discussion		
22-Jan	F	Flex scheduling day		
5. RNA turnover				
25-Jan	M	Chris Lima lecture - RNA turnover		lilimac@mskcc.org
26-Jan	T	Chris Lima paper discussion		
27-Jan	W	NO CLASS - RECRUITMENT		
28-Jan	Th	NO CLASS - RECRUITMENT		
29-Jan	F	Flex scheduling day		
6. Noncoding RNA, translation				
1-Feb	M	Benjamin Kleaveland lecture - Regulatory RNAs		bek9059@med.cornell.edu
2-Feb	T	Benjamin Kleaveland paper discussion		
3-Feb	W	Heeseon An lecture - Ribosomes		anh@mskcc.org
4-Feb	Th	Heeseon An paper discussion		
5-Feb	F	Flex scheduling day		
7. Ubiquitin-mediated protein control, membrane proteins				
8-Feb	M	Alban Ordureau lecture - Ubiquitin-mediated protein control		ordureaa@mskcc.org
9-Feb	T	Alban Ordureau paper discussion		
10-Feb	W	Tobi Walther lecture - Lipids		TWalther@mskcc.org
11-Feb	Th	Tobi Walther paper discussion		
12-Feb	F	Flex scheduling day		
8. Ion channels, lipids				
Presidents' Day		NO CLASS		
15-Feb	M	Richard Hite lecture - Ion Channels		hiter@mskcc.org
16-Feb	T	Richard Hite paper discussion		
17-Feb	W	Melinda Diver lecture - Membranes and membrane proteins		diverm2@mskcc.org
18-Feb	Th	Melinda Diver paper discussion		
19-Feb	F	Flex scheduling day		
9. Cytoskeleton, mitochondria				
22-Feb	M	Flex scheduling day		
23-Feb	T	Philipp Niethammer lecture - Actin		niethamp@mskcc.org
24-Feb	W	Philipp Niethammer - paper discussion		
25-Feb	Th	Giovanni Manfredi lecture - Mitochondrial metabolism		gim2004@med.cornell.edu
26-Feb	F	Giovanni Manfredi - paper discussion		
SPRING BREAK				
1-Mar	M	NO CLASS Spring Break		
2-Mar	T	NO CLASS Spring Break		
3-Mar	W	NO CLASS Spring Break		
4-Mar	Th	NO CLASS Spring Break		
5-Mar	F	NO CLASS Spring Break		
10. Metabolism, autophagy				
8-Mar	M	Flex scheduling day		
9-Mar	T	Xuejun Jiang lecture - Autophagy		jiangx@mskcc.org
10-Mar	W	Xuejun Jiang paper discussion		
11-Mar	Th	Ben Hopkins lecture - Metabolism		beh2020@med.cornell.edu
12-Mar	F	Ben Hopkins paper discussion		
EXAM I				
15-Mar	M	NO CLASS		
16-Mar	T	NO CLASS		
17-Mar	W	NO CLASS		
18-Mar	Th	NO CLASS		
19-Mar	F	EXAM		

Biochemistry and Structural Biology Program

BCMB 9008 02 Logic and Critical Analysis

Course Title: BCMB 9008.02 Logic and Critical Analysis

Credit Hours: 0.50

Office Hours and Contact Information:

Naama Aviram	Room RRL 801-D	Email: aviramn@mskcc.org
Jessica Sheu-Gruttadauria	Room RRL 917E	Email: sheugrj@mskcc.org

Office hours available by appointment

Course Description

This course is designed to reinforce several foundational facets of being a scientist. We will explore the foundations of the scientific method, including how you develop a logical and rigorous experimental path to address a hypothesis. We will also discuss how you identify compelling scientific questions and hypotheses in the first place, and how creativity plays a central role in the generation of innovative scientific ideas. Lastly, we will develop your ability to critically and objectively analyze data and claims in primary literature.

Course Objectives

At the completion of this course the learner will:

1. Become familiar with the scientific method and how to think along and develop an interpretable and logical experimental path.
2. Develop skills in how to read and critically analyze primary data and literature
3. Discuss concepts for identifying interesting scientific questions and generating hypotheses and explore the role of creativity alongside scientific rigor
4. Be introduced to how artificial intelligence is shaping critical thinking in modern science
5. Develop communication skills for scientific presentations

Semester Offered, Year of Students, and Course Frequency:

Offered every year, in the Fall semester for First year Students. The course consists of 6 lectures set up at various times and dates for 2 hours each.

Teaching Format:

Class format will change during every session but will be focused on discussion and student participation. All sessions will be in-person, led or moderated by a faculty member. Specifics on student-led assignments and presentations will be sent out with assigned readings in mid-October.

Text and Materials:

Assigned readings will be provided beforehand by mid-October. Many of these readings will be outside your area of expertise. We suggest that you read through the paper critically and seek additional resources to familiarize yourself with the scientific question and techniques used. Please come prepared to discuss all readings.

Method of Evaluation:

Your grade will be based on your participation in class discussions small-group presentations. Everyone is expected to actively participate by asking and answering multiple questions, with the goal of fostering a lively discussion in each session.

Schedule:**Session 1: Foundations of Logic and Scientific Reasoning****Date and time: Monday 11/9/2026, 10 AM-12 PM**

Faculty leader: Naama Aviram (MSKCC, Molecular Biology Program)

*An introduction to formal logic, statistical reasoning, and causal inference.***Session 2: Anatomy of a Scientific Argument****Date and time: Tuesday 11/10/2026, 10 AM-12 PM**

Faculty leader: Andrea Ventura (MSKCC, Cancer Biology and Genetics Program)

*Using a landmark paper on the genetic code as a case study, we dissect how evidence is assembled into a scientific argument and where the reasoning can break down.***Session 3: The Generative Side of Science****Date and time: Thursday 11/12/2026, 10 AM-12 PM**

Faculty leaders: Naama Aviram and Jess Sheu-Gruttadauria (MSKCC, Molecular Biology Program)

*An exploration of intuition, creativity, and Night Science. We will explore why rigorous thinking and generative thinking are complementary rather than opposed.***Session 4: When a Model Becomes a Field****Date and time: Monday 11/16/2026, 10 AM-12 PM**

Faculty leader: Jess Sheu-Gruttadauria (MSKCC, Molecular Biology Program)

A structured debate using the phase separation literature to examine how scientific models gain traction, what evidentiary standards shift in the process, and how to evaluate a fashionable idea.

Session 5: The Economy of Scientific Belief

Date and time: Tuesday 11/17/2026, 10 AM-12 PM

Faculty leader: Jess Sheu-Gruttadauria (MSKCC, Molecular Biology Program)

Discussion session on how publication culture, novelty pressure, and career structures shape what gets done, what gets reported, and what a field ends up accepting as true. A case study on a major retraction will be discussed.

Session 6: Critical Thinking in the Age of AI

Date and time: Thursday 11/19/2026, 10 AM-12 PM

A student-led discussion on how AI tools reshape the epistemology of scientific reasoning, and what it means to maintain critical judgment when using systems that also generate and evaluate evidence.

Academic Integrity

Students are expected to abide by the Weill Cornell Graduate School Code of Academic Integrity.

BCMB Program, Weill Cornell Graduate School of Medical Sciences						
Core course Spring 2026						
9:30 am - 11:00 am						
Part II. From cells to organisms and disease			TAs			
Google Drive for course materials:						
Zoom for all meetings:						
Box for all recorded lectures						
			Faculty	Title	Room	Faculty email PA email
1. Cell division, senescence and cell death						
	16-Mar	M	Tobias Meyer	cell cycle		tom4003@med.cornell.edu
	17-Mar	T	Tobias Meyer	paper discussion		
	18-Mar	W	David Simon	cell death		djs4002@med.cornell.edu
	19-Mar	Th	David Simon	paper discussion		
	20-Mar	F	NO CLASS			
2. Cell adhesion						
	23-Mar	M	Michael Overholtzer	cell-cell adhesion		overhom1@mskcc.org
	24-Mar	T	Michael Overholtzer	paper discussion		
	25-Mar	W	Carl Blobel	cell adhesion to matrix		BlobelC@HSS.Edu
	26-Mar	Th	Carl Blobel	paper discussion		
	27-Mar		NO CLASS			
3. Development 1						
	30-Mar	M	Masha Akhmanova	cell migration in tissues		akhmanm1@mskcc.org
	31-Mar	T	Masha Akhmanova	paper discussion		
	1-Apr	W	Jen Zallen	polarity and pattern formation		zallenj@mskcc.org
	2-Apr	Th	Jen Zallen	paper discussion		
	3-Apr	F	NO CLASS			
4. Development 2						
	6-Apr	M	Kat Hadjantonakis	Establishing the mammalian body plan		Hadjanta@MSKCC.ORG clericon@mskcc.org
	7-Apr	T	Kat Hadjantonakis	paper discussion		
	8-Apr	W	Mary Baylies	Organogenesis		m-baylies@ski.mskcc.org
	9-Apr	Th	Mary Baylies	paper discussion		
	10-Apr	F	NO CLASS			
5. Development 3 / signalling 1						
	13-Apr	M	Eric Lai	notch signaling		laie@mskcc.org
	14-Apr	T	Eric Lai	paper discussion		
	15-Apr	W	Joshua Levitz	G coupled signaling		jtl2003@med.cornell.edu
	16-Apr	Th	Joshua Levitz	paper discussion		
	17-Apr	F	NO CLASS			
6. Signaling 2						
	20-Apr	M	Tuomas Tammela	Wnt signalling		tammelat@mskcc.org
	21-Apr	T	Tuomas Tammela	paper discussion		
	22-Apr	W	John Blenis	mTOR signaling		job2064@med.cornell.edu
	23-Apr	Th	John Blenis	paper discussion		
	24-Apr	F	NO CLASS			
7. Signaling 3						
	27-Apr	M	Shannon Reilly	Diabetes and insulin signalling		smr4005@med.cornell.edu
	28-Apr	T	Shannon Reilly	paper discussion		
	29-Apr	W	Rachel Niec	Tissue communication in environmental		niecr@mskcc.org
	30-Apr	Th	Rachel Niec	paper discussion		
	1-May	F	NO CLASS			
9. Cancer						
	4-May	M	Karuna Ganesh	Regeneration, metastasis, and therapy r		rganeshk@mskcc.org
	5-May	T	Karuna Ganesh	paper discussion		
	6-May	W	Scott Lowe	Cancer studies in animal models		lowes@mskcc.org
	7-May	Th	Scott Lowe	paper discussion		
	8-May	F	NO CLASS			
9. Cancer						
	11-May	M	Mara Sherman	Cells in the cancer microenvironment		shermam1@mskcc.org
	12-May	T	Mara Sherman	paper discussion		
	13-May	W	Convocation			
	14-May	Th	Commencement			
	15-May	F	NO CLASS			
10. Aging						
	18-May	M	Natalia De Marco Garo	Neural development		nad2018@med.cornell.edu
	19-May	T	Natalia De Marco Garo	paper discussion		
	20-May	W	Katy Taylor	Neural control of cancer		taylorlk6@mskcc.org
	21-May	Th	Katy Taylor	paper discussion		
	22-May	F	NO CLASS			
11. Infection						
	25-May	M	MEMORIAL DAY			
	26-May	T	David Eliezer	Alzheimer's and Parkinson's disease		dae2005@med.cornell.edu
	27-May	W	David Eliezer	paper discussion		
	28-May	Th	Dirk Schnappinger	Tuberculosis		dis2003@med.cornell.edu

Lab Rotation Research Progress Report

BCMB Allied Graduate Program

Rotation Period: ☐ Summer ☐ Fall ☐ Winter ☐ Spring

Project Title:

Student's Name: _____

Lab Rotation Mentor: _____

Signature: _____

1st Year Advisor: _____

Signature: _____