



Yale University

Graduate Program in Translational Biomedicine

Handbook for Graduate Students and Participating Faculty

2022-2023

Table of Contents

Program Administration/Faculty.....	2-3
University Office Contact Information.....	3-4
Fields of Study.....	4-5
Admissions/Special Requirements.....	6-7
Courses.....	7-8
Joining a Lab.....	8
Qualifying Exam.....	9
Prospectus & Thesis Committee.....	9-10
Responsible Conduct of Research.....	10
Dissertation.....	10-11
Teaching Requirements.....	11
Leave of Absence.....	11
Graduate School Academic Calendar.....	12-13
Appendix 1: Required Coursework Timeline.....	14

Yale Graduate Program in Translational Biomedicine

<https://medicine.yale.edu/ptb/>

Director: Megan King, PhD

Associate Director: Richard Kibbey, MD/PhD

Co-Directors of Graduate Studies: Drs. Megan King & Richard Kibbey

Faculty

Name	Primary Department(s)	Email	Phone
Nita Ahuja, MD, MBS, FACS	Surgery; Pathology	nita.ahuja@yale.edu	877.925.3637
Anton Bennett, PhD	Comparative Medicine; Pharmacology	anton.bennett@yale.edu	203.737.2441
Angelique Bordey, PhD	Neurosurgery	angelique.bordey@yale.edu	203.737.2515
Kristen Brennand, PhD	INP; Genetics	kristen.brennand@yale.edu	
Emanuela Bruscia, PhD	Pediatric Pulmonology, Allergy, Immunology & Sleep Medicine	emanuela.bruscia@yale.edu	
Christopher Bunick, MD/PhD	Dermatology	christopher.bunick@yale.edu	203.577.1050
Lloyd Cantley, MD	Internal Medicine/Nephrology; Physiology	lloyd.cantley@yale.edu	203.785.4186
Keith Choate, MD/PhD	Dermatology	keith.choate@yale.edu	203.785.4445
Marie Egan, MD	Pediatrics; Cellular & Molecular Physiology	marie.egan@yale.edu	203.785.2480
Fred Gorelick, MD	Internal Medicine – Digestive Diseases; Cell Biology	fred.gorelick@yale.edu	203.932.5711 X3679
Jaime Grutzendler, MD	Neurology	jaime.grutzendler@yale.edu	203.737.8859
Vikas Gupta, MD/PhD	Internal Medicine/Endocrinology; Digestive Diseases	vikas.gupta@yale.edu	203.785.4138
Brian Hafler, MD/PhD	Ophthalmology; Pathology	brian.hafler@yale.edu	877.925.3637
David Hafler, MD, FANA	Immunology; Neurology	david.hafler@yale.edu	203.785.5947
Erica Herzog, MD/PhD	Pathology; Pulmonary, Critical Care & Sleep Medicine	erica.herzog@yale.edu	203.785.3627
Monique Hinchcliff, MD/MS	Rheumatology	monique.hinchcliff@yale.edu	877.925.3637
Mustafa Khokha, MD	Genetics; Pediatrics	mustafa.khokha@yale.edu	203.785.4650

Richard Kibbey, MD/PhD	Cellular & Molecular Physiology; Internal Medicine/Endocrinology	richard.kibbey@yale.edu	203.737.4055
Megan King, PhD	Cell Biology; Molecular, Cell and Developmental Biology; Therapeutic Radiology	megan.king@yale.edu	203.737.4628
Liza Konnikova, PhD	Neonatal-Perinatal Medicine	liza.konnikova@yale.edu	
Diane Krause, MD/PhD	Cell Biology; Laboratory Medicine; Pathology	diane.krause@yale.edu	203.737.1678
Ruth Montgomery, PhD	Epidemiology; Pathology	ruth.montgomery@yale.edu	203.785.7039
Don Nguyen, PhD, BS	Pathology	don.nguyen@yale.edu	203.737.4514
Emily Olfson, MD/PhD	Child Study Center	emily.olfson@yale.edu	
Renato Polimanti, PhD, MSc*	Psychiatry	renato.polimanti@yale.edu	203.937.5711 X5745
Katerina Politi, PhD	Pathology	katerina.politi@yale.edu	
Aaron Ring, MD/PhD	Immunology	aaron.ring@yale.edu	203.737.4494
Faye Rogers, PhD	Therapeutic Radiology	faye.rogers@yale.edu	203.737.3658
Kurt Schalper, MD/PhD	Medical Oncology; Pathology	kurt.schalper@yale.edu	203.785.4719
Jason Sheltzer, PhD	Surgery-Oncology; Genetics	jason.sheltzer@yale.edu	
Dennis Shung, MD, MHS, PhD*	Digestive Diseases	dennis.shung@yale.edu	203.785.1345
Agnès Vignery, PhD, DDS	Cell Biology	agnes.vignery@yale.edu	
David Zenisek, PhD	Cellular & Molecular Physiology; Ophthalmology	david.zenisek@yale.edu	203.785.6474

*Affiliate (junior) faculty who wish to work towards obtaining a graduate school appointment and are able to participate in the co-mentorship of graduate students in partnership with an experienced co-mentor.

University Offices

Yale Graduate School

Dean	Lynn Cooley, PhD	lynn.cooley@yale.edu	203.432.2733
Deputy Dean & Dean of Strategic Initiatives	Pamela Schirmeister, PhD	pamela.schirmeister@yale.edu	203.432.9098
Assoc Dean for the Biological & Biomedical Sciences	John Alvaro, PhD	john.alvaro@yale.edu	203.785.3735
Assoc Dean for Graduate Education	Jasmina Besirevic Regan, PhD	jasmine.besirevic@yale.edu	203.432.5127
Assoc Dean for Academic Support	Allegra di Bonaventura, JD, PhD	allegra.dibonaventura@yale.edu	203.432.2735
Assoc Dean for Admissions & Financial Support	Robert Harper-Mangels, PhD	robert.harper-mangels@yale.edu	203.432.1884
Assistant Dean for Graduate Academic Support & Outreach	Matthew Tanico, MBA	matthew.tanico@yale.edu	203.432.8895
Graduate School Director of Admissions	Leah Phinney, MBA	leah.phinney@yale.edu	203.432.2749

Biological & Biomedical Sciences

Director	Craig Roy, PhD	craig.roy@yale.edu	
Associate Dean	John Alvaro, PhD	john.alvaro@yale.edu	203.785.3735
Assoc Director, BBS & Training Grant Hub	Bonnie Ellis	bonnie.ellis@yale.edu	203.785.5663
Senior Administrative Assistant	Jennifer Franzoni	jennifer.franzoni@yale.edu	203.737.5659
Assistant Director of Training Program Assessment	Jennifer Claydon, PhD	jennifer.claydon@yale.edu	203.671.3172
Director of Minority Affairs	Anton Bennett, PhD	anton.bennett@yale.edu	203.737.2441

Translational Molecular Medicine, Pharmacology, and Physiology Track

TMMPP Track Director	David Zenisek, PhD	david.zenisek@yale.edu	203.785.3474
PTB Co-Directors of Graduate Studies	Megan King, PhD Richard Kibbey, MD/PhD	megan.king@yale.edu richard.kibbey@yale.edu	203.737.4628 203.737.4055
Pathology Director of Graduate Studies	Themis Kyriakides, PhD	themis.kyriakides@yale.edu	203.737.2214
Pathology Graduate Registrar	Marissa Delise	marissa.delise@yale.edu	203.785.6721
Pharmacology Director of Graduate Studies	Elias Lolis, PhD	elias.lolis@yale.edu	203.785.6233
Pharmacology Graduate Registrar	Caitlin Canner-O'Mealy	caitlin.canner-omealy@yale.edu	203.785.7469
Cellular & Molecular Physiology Director of Graduate Studies	David Zenisek, PhD	david.zenisek@yale.edu	203.785.3474
Cellular & Molecular Physiology Graduate Registrar	Diane Altschuler	diane.altshuler@yale.edu	203.785.4041

Fields of Study

Cancer Biology: leukemogenesis, metastasis, growth control, genome integrity, immune checkpoint therapy.

Cell Biology: cytoskeleton, nuclear structure and dynamics.

Cell Signaling: kinases, phosphatases, growth signaling.

Epithelial cell biology: epithelial patterning, skin development and disease.

Immunology: autoimmune disease, immunotherapy, systems biology.

Genetics: disease etiology, birth defects.

Lung function: cystic fibrosis, lung disease, idiopathic lung fibrosis.

Maternal-Fetal Medicine.

Metabolism: signaling and systems biology, diabetes.

Neuroscience: pathogenesis of brain disease, neurogenomics.

Organ homeostasis and injury: pancreatitis, kidney injury, macular degeneration, scleroderma.

Physiology.

Students seeking admission into the PhD program in Translational Biomedicine (PTB) apply to the Translational, Molecular Medicine, Pharmacology, and Physiology (TMMPP) track within the interdepartmental graduate program in Biological and Biomedical Sciences (BBS), <https://medicine.yale.edu/bbs/molmed/>.

Admissions Requirements

In addition to meeting general BBS requirements, applicants should have a strong background in biological, chemical, and/or physical sciences. For example, an undergraduate major/degree in biology, biochemistry, physiology, genetics, chemistry, physics, mathematics, engineering, or computer science could be appropriate. Courses in biology, biochemistry, organic and physical chemistry, and mathematics through elementary calculus, are strongly recommended. The Graduate Record Examination (GRE) General Test is neither required nor is it accepted as part of the application.

For more information regarding general BBS entrance requirements, please [view the BBS Admission Requirements](#).

Special Requirements for the Ph.D. Degree

The primary mission of the PTB is to prepare the next generation of translational scientists to be forward-thinking leaders in academic research, medicine, education, industry and society. To achieve this mission, the PTB leverages its interdepartmental structure to break down silos between disciplines and to foster a collaborative community comprised of laboratories from across all the departments at the Yale School of Medicine. The PTB program emphasizes a flexible curriculum, personalized professional development, and a supportive environment in which all participants can reach their full potential.

The first 3 to 4 terms of graduate study are spent in formal course work, independent reading, laboratory rotations and early thesis work. Each student's program of study is designed in consultation with the TMMPP Track Director during the first year and with an advisory committee of the PTB that includes the PTB Director(s) of Graduate Studies once the student affiliates with the PTB, typically in the spring of the first year of study. The goal is to provide both flexibility, rigor and breadth while ensuring that students are well prepared to meet the PTB course requirements and to have a strong foundation for their thesis research. Students also participate in at least three laboratory rotations during the first two terms.

PTB coursework will include at least five graduate-level courses that will typically be taken over the first four terms. Students must meet the Graduate School requirement of a grade of Honors in 2 courses, if necessary taking additional courses to fulfill this requirement. The Graduate School requires this requirement be met by the end of the second year.

PTB students are expected to take at least one of the following: PTB550a, PTB690a and/or PTB504a. Our core course, PTB604b, and the year-long graduate seminar course in the TMMPP Track, are required. PTB students are also required to take one course in biostatistics (from several offered). In the second year PTB students are required to take 4 modules (1 year) of the Mentored Clinical Experience (MCE) and the PTB Grant Writing Course.

A qualifying examination is given during the second year of study and consists of a written research proposal based on the proposed thesis project followed by an oral exam. Within one year after a successful qualifying exam the student schedules the first thesis committee meeting and provides an updated summary of the thesis project (in the form of a revised Specific Aims page and an NIH-style "Introduction" to the revised Aims). At this meeting the student is considered for advancement to candidacy, which must occur prior to the end of Year 3. In addition to all other requirements, students must successfully complete the Responsible Conduct in Research course (PTB650/PHAR 580/C&MP 650/PATH 660) prior to the end of their first year of study. In their

fourth year of study, all students must successfully complete B&BS 503, the RCR Refresher for Senior BBS Students.

M.D./Ph.D. Students

M.D./Ph.D. students who affiliate with the PhD program in Translational Biomedicine follow a different course than other incoming graduate students, resulting in some modifications of the academic requirements for the Ph.D. portion of the M.D./Ph.D. degree. Typically, one or more research rotations are done during the first two years of medical school (in many cases, several rotations are done during the summer between Years 1 and Year 2). No set number of research rotations is required. M.D./Ph.D. students officially affiliate with the PhD program in Translational Biomedicine after selecting a thesis adviser and consulting with the Director(s) of Graduate Studies (DGS). M.D./Ph.D. students interested in affiliating with the PTB are encouraged to consult with the DGS as early as possible to determine an appropriate set of courses tailored to the student's background and interests.

The courses, rotations, and teaching requirements for M.D./Ph.D. students entering the PTB (see below) may be modified from the normal requirements for Ph.D. students with permission of the DGS. Although five graduate-level courses are still required, some medical school courses are recognized. M.D./Ph.D. students must also meet the Graduate School requirement of a grade of Honors in two courses, if necessary taking additional courses beyond the five required in the department to fulfill this requirement. Students must also maintain an average grade of High Pass in all courses. M.D./Ph.D students are not required to take the MCE course. In addition, only one term of teaching is required.

M.D./Ph.D. students will be admitted to candidacy once they have completed their course work, obtained two Honors grades, passed their qualifying exam, and had their dissertation prospectus accepted by their thesis committee.

Master's Degrees

M.Phil. See Degree Requirements under [Policies and Regulations](#).

M.S. Students are not admitted for this degree. They may receive this recognition if they leave Yale without completing the qualifying exam but have satisfied the course requirements as described above, as well as the Graduate School's Honors requirement. Students who are eligible for or who have already received the M.Phil. will not be awarded the M.S.

Courses

PHAR 504a / PTB 504a, Molecular Mechanisms of Drug Actions

Elias Lolis

This course covers the molecular mechanisms of therapeutics, which are presented in a conceptual framework to increase understanding but decrease memorization. Topics include (but are not limited to) receptor affinity, efficacy, multiple equilibria, pharmacokinetics, and toxicity; enzyme kinetics and inhibition, drug discovery and design; molecular basis of antimicrobial therapy, cardiology drugs, anticancer and antiviral therapies; and therapeutics for inflammatory disorders, asthma, and allergy.

PHAR 550a / C&MP 550a / ENAS 550a / MCDB 550a / PTB 550a, Physiological Systems

Stuart Campbell

The course develops a foundation in human physiology by examining the homeostasis of vital parameters within the body, and the biophysical properties of cells, tissues, and organs. Basic concepts in cell and membrane physiology are synthesized through exploring the function of skeletal, smooth, and cardiac muscle. The physical basis of blood flow, mechanisms of vascular exchange, cardiac performance, and regulation of overall circulatory function are discussed. Respiratory physiology explores the mechanics of ventilation, gas diffusion, and acid-base balance. Renal physiology examines the formation and composition of urine and the regulation of electrolyte, fluid, and acid-base balance. Organs of the digestive system are discussed from the perspective of substrate metabolism and energy balance. Hormonal regulation is applied to metabolic control and to calcium, water, and electrolyte balance. The biology of nerve cells is addressed with emphasis on synaptic transmission and simple neuronal circuits within the central nervous system. The special senses are considered in the framework of sensory transduction. Weekly discussion sections provide a forum for in-depth exploration of topics. Graduate students evaluate research findings through literature review and weekly meetings with the instructor.

CBIO 604b / PTB 604b, Physiologic Function and Cellular Structure of Organ Systems

Agnes Vignery and Richard Kibbey

This course is an introduction to the organization and function of cells within complex multicellular systems as encountered in the human body. You will cover major tissues and organs as well as the cardiovascular, immune, and nervous systems, with special emphasis on the molecular and cellular bases of developmental processes and human diseases. Each week the lectures are supplemented with an active learning session including clinical correlations and student presentations.

PATH 690a / PTB690a, Molecular Mechanisms of Disease

Demetrios Braddock and Carlos Fernandez-Hernando

This course covers aspects of the fundamental molecular and cellular mechanisms underlying various human diseases. Many of the disorders discussed represent major forms of infectious, degenerative, vascular, neoplastic, and inflammatory disease. Additionally, certain rarer diseases that illustrate good models for investigation and/or application of basic biologic principles are covered in the course. The objective is to highlight advances in experimental and molecular medicine as they relate to understanding the pathogenesis of disease and the formulation of therapies.

Joining a Lab for the Dissertation Research

The single most important decision made by a graduate student is the selection of a dissertation advisor and laboratory. Students are encouraged to use the rotations to learn about potential advisors holistically, taking into account variables such as scientific focus, mentorship style, laboratory resources, and the past training record of the potential advisor. Other useful sources of information are prior trainees of the advisor, the Director of Graduate Studies and other faculty. The DGS must approve the selection of a laboratory, which requires commitment on the part of the advisor and their primary department. The selection of a lab marks the assignment of a student from a track to the PTB.

Qualifying Examination

Format: The qualifying exam will consist of 1) a written research proposal based on the prospective thesis project and 2) an oral exam in which the student defends the research proposal before a qualifying exam committee.

Timeframe: PTB students are expected to prepare for and complete the qualifying exam in the fall semester of the second year. Students needing extra time to prepare for the exam (for example, a student who carried out additional lab rotations or transferred between labs) may be allowed to have an extension of the deadline or to take the exam in the following spring term, but only with approval from the thesis advisor and the DGS. All students are required to complete the qualifying exam within one year of joining the program.

Qualifying exam committee: The student will assemble a qualifying exam committee of three faculty members (excluding the thesis advisor) in consultation with their advisor and the DGS, who must approve the committee. The chair of the committee must have an appointment as a PTB trainer.

Preparation for the qualifying exam: The student should develop a one-page outline draft of their proposal in the form of an NIH "Specific Aims" page that will be shared with their committee members in the early fall of their second year, typically two months prior to the exam. In consultation with the exam committee and thesis advisor, the student will define several (at least three) research areas broadly relevant to the thesis project that the student will be expected to be knowledgeable about from reading the literature. The student is encouraged to meet with qualifying exam committee members for advice and guidance in reading the literature.

Preparation and submission of the written research proposal: The written proposal should include a single Specific Aims page (Arial 11 pt font, 0.5 inch margins, single spaced) and be in the format of an NIH F31 grant: 6 pages, Arial 11 pt font, 0.5 inch margins, single spaced including figures. The proposal should include a Significance (Introduction) section, Research Strategy section, and References; References do not count towards the page limit. The written proposal should be provided to the committee at least a week prior to the oral exam date. Should the proposal be submitted in less than a week's time, there may be a need to reschedule the defense at the discretion of the qualifying exam committee.

Oral exam: The student will prepare an oral presentation that covers the background and topic of their proposal (~maximum of 20 slides). The committee will ask questions both conceptual and technical in nature on topics related to the content of the proposal. At the conclusion of the exam the committee will consider the written proposal and oral defense and unanimously agree on a Pass, Fail, Conditional Pass outcome. In the case of a conditional pass, specific guidance and a timeline will be provided to the student including possible rewriting of the proposal and/or second oral defense. In all cases, students must successfully complete the qualifying exam by the end of their sixth term.

Prospectus & Thesis Committee

Prospectus and Thesis Committee: Upon completing the qualifying exam and moving towards engaging in full-time research, a thesis/prospectus committee will be formed which will consist of the student's thesis advisor and a minimum of three additional faculty members; in most cases this is expected to include the members of

the qualifying exam committee. This committee will be selected by the student, but each committee must have a Chair who is a PTB-affiliated trainer and must be approved by the PTB DGS.

Timeframe: The committee must be convened and hold its first meeting (the prospectus meeting) within a year after the qualifying exam, typically prior to the end of the fifth term. Once the student's Prospectus is approved and they are admitted to candidacy, which must occur by the end of the sixth term, the thesis committee will meet every six months until the time of degree.

Format and Prospectus Approval: One week prior to the prospectus (first thesis committee) meeting, the student will provide the committee with 1) a Specific Aims page that the student has updated from the materials included as part of the qualifying exam; and 2) an "Introduction to revision" page that describes the changes made to the Specific Aims over the first year as the student has engaged in the research project. These documents and the oral presentation by the student will be the basis on which the committee will recommend approval of the prospectus to the PTB DGS, who will oversee the submission of the Prospectus materials and their approval to the GSAS registrar.

Individual Professional Development Plan (IDP): Prior to the prospectus meeting (and all subsequent thesis committee meetings) the student is expected to complete an IDP and discuss it with their mentor. For example, use the resource: myidp.sciencecareers.org or another similar mechanism. This is a valuable time to step back and assess your accomplishments and future goals and to ensure that your PhD training is preparing you for future success.

External examiner visit: Prior to or immediately after admission to candidacy, students are asked to work with their advisor to identify a faculty member from outside Yale who will ultimately serve on their dissertation committee. This individual will be invited as part of the Translational Science Seminar Series in the student's third or fourth year of study to visit Yale, during which the student will have a dedicated hour to present and discuss their thesis research. After the student has prepared the thesis, the external examiner will read the thesis and make suggestions for edits. The external examiner is then invited back to campus (or may participate virtually) in the thesis defense of the student.

Responsible Conduct of Research

At the start of their first year of study, all master's and Ph.D. students are required to attend sessions on professional ethics, including academic integrity, prevention of sexual misconduct, and discrimination and harassment reporting. Students must also complete an approved online training module in professional ethics before they can register for the spring term of their first year.

Dissertation

When the student is prepared to ask for permission to write their dissertation, they will convene a meeting of the thesis committee. The student should provide the committee with a written outline of the thesis prior to the meeting. If the progress of the student is deemed sufficient and the thesis outline is approved, the student will be given permission to proceed with writing the thesis and scheduling their defense. Approval of the committee at this stage will be contingent on the student either having a first-author publication (including in press) or having generated a prepared first-author manuscript for submission for publication that is provided to the committee; in most cases this is expected to be available online as a preprint. A complete draft of the dissertation must be distributed to the committee members (including the external examiner) no later than

two weeks before the defense is to take place. The thesis defense consists of two parts: 1) An open seminar to which all members of the academic community will be invited; and 2) An oral defense of the thesis, which will include only the student and the thesis committee. When the defense has been completed, the committee will discuss acceptance of the thesis (with or without revisions). Once all changes have been made to the satisfaction of the committee, the student can submit the dissertation and all required paperwork to the GSAS. The dissertation should normally be submitted no later than March of year six.

Teaching Requirements

All PTB students are required to teach the equivalent of two courses at the TF-10 level (10 hours per week) or one course at the TF-20 level (20 hours per week). These can be chosen from numerous lecture, laboratory and seminar courses offered at the undergraduate, graduate or medical school levels. Students generally teach in the 3rd year but may also begin teaching during the spring of their 2nd year with permission of the thesis advisor and PTB DGS. MD/PhD students are only required to TA one course at the TF-10 level.

Prior to the first semester of teaching, each PTB student must attend the Teaching @ Yale Day Orientation. Students are also encouraged to take one or more of the short teaching courses and workshops offered by the Poorvu Center for Teaching and Learning.

Leave of Absence

Students who wish or need to interrupt their study temporarily may request a leave of absence. There are three types of leave—personal, medical, and parental.

General policies, as well as specific requirements for any type of leave may be found at:
<http://catalog.yale.edu/gsas/policies-regulations/academic-regulations/#leavesofabsence>

Graduate School Academic Calendar 2022-2023

Fall Term 2022

Aug. 22	M	New student orientation week begins (mandatory)
Aug. 22	M	Oral Performance Assessment for continuing international students in Ph.D. programs
Aug. 24	W	Fall-term online course selection begins
Aug. 31	W	Fall-term classes begin, 8:20 a.m.
Sept. 2	F	Monday classes meet on Friday
Sept. 2	F	Due date to notify department of intention to submit dissertation for award of the Ph.D. in December
Sept. 2	F	Final day to file petitions for M.A., M.S., and M.Phil. degrees to be awarded in December
Sept. 5	M	Labor Day. Classes do not meet
Sept. 14	W	Fall-term online course selection ends. Final day for registration. A fee of \$50 is assessed for course schedules accepted after this date
Sept. 14	W	Final day to apply for a fall-term personal leave of absence
Sept. 14	W	The entire fall-term tuition charge or continuous registration fee (CRF) will be canceled for students who withdraw from the Graduate School on or before this date or who are granted a leave of absence effective on or before this date.
Sept. 23	F	One-half of the fall-term full tuition charge will be canceled for students who withdraw from the Graduate School on or before this date or who are granted a medical leave of absence effective on or before this date. The CRF is not prorated
Oct. 1	Sat	Due date for dissertations to be considered by the Degree Committee for award of the Ph.D. in December
Oct. 1	Sat	Final date for the faculty to submit grades to replace grades of Temporary Incomplete (TI) awarded during the previous academic year
Oct. 18	T	October recess begins, 11 p.m.
Oct. 24	M	Classes resume, 8:20 a.m.
Oct. 28	F	Midterm
Oct. 28	F	Final day to change enrollment in a fall-term course from Credit to Audit or from Audit to Credit
Oct. 28	F	Final day to withdraw from a fall-term course
Oct. 28	F	One quarter of the fall-term full tuition charge will be canceled for students who withdraw from the Graduate School on or before this date or who are granted a medical leave of absence effective on or before this date. The CRF is not prorated
Oct. 28	F	Teaching appointments will not appear on the transcripts of students who withdraw from the assignment on or before this date
Oct. 31	M	Readers' Reports are due for dissertations to be considered by the Degree Committee for awarding of the Ph.D. in December
Nov. 9	W	Final day to withdraw a degree petition for degrees to be awarded in December
Nov. 11	F	Oral Proficiency Assessment for international students in all GSAS degree programs
Nov. 11	F	Deadline for departments to return Degree Recommendation Forms for December degrees to Registrar
Nov. 16	W	Registration for Spring 2023 opens, 8:00 a.m.
Nov. 18	F	November recess begins, 5:30 p.m.
Nov. 28	M	Classes resume, 8:20 a.m.
Nov. 30	W	Final day to submit petitions for extended registration and Dissertation Completion Status for the spring term
Dec. 14	W	Registration for Spring 2023 closes, 5:00 p.m.
Dec. 15	T	Classes end, 5:30 p.m.
Dec. 15	T	Final examinations begin, 7:00 p.m.
Dec. 21	W	Examinations end, 5:30 p.m. Winter recess begins
Dec. 22	T	Date of December degree award

Spring Term 2023

Jan. 3	T	Final grades for fall-term courses due
Jan. 3	T	Final day that faculty may submit a request for the assignment of a grade of Temporary Incomplete
Jan. 12	T	Add/drop period opens, 8:30 a.m.
Jan. 13	F	Teaching @ Yale Day: orientation for all new Teaching Fellows
Jan. 16	M	Martin Luther King, Jr. Day. Administrative offices are closed; classes do not meet
Jan. 17	T	Spring-term classes begin, 8:20 a.m.
Jan. 23	M	Add/drop period closes, 5:00 p.m. A fee of \$50 is assessed for course schedules accepted after this date
Jan. 31	T	Final day to apply for a spring-term personal leave of absence
Jan. 31	T	The entire spring term tuition charge or CRF will be canceled for students who withdraw from the Graduate School on or before this date or who are granted a leave of absence effective on or before this
Feb. 10	F	One-half of the spring term full-tuition charge will be canceled for students who withdraw from the Graduate School on or before this date or who are granted a medical leave of absence effective on or before this date. The CRF is not prorated
Feb. 15	W	Due date to notify department of intention to submit a dissertation for award of the Ph.D. in May
Feb. 15	W	Final day to file petitions for M.A., M.S., and M.Phil. degrees to be awarded in May
Mar. 10	F	Midterm - Spring recess begins, 5:20 p.m.
Mar. 10	F	Final day to change enrollment in a spring-term course from Credit to Audit or from Audit to Credit
Mar. 10	F	Final day to withdraw from a spring-term course.
Mar. 10	F	One-quarter of the spring-term full-tuition charge will be canceled for students who withdraw from the Graduate School on or before this date or who are granted a medical leave of absence effective on or before this date. The CRF is not prorated
Mar. 10	F	Teaching appointments will not appear on the transcripts of students who withdraw from the assignment on or before this date
Mar. 15	W	Due date for dissertations to be uploaded to DPRS for consideration by the Degree Committee for award of the Ph.D. in May
Mar. 27	M	Classes resume, 8:20 a.m.
Apr. 7	F	Good Friday. Administrative offices closed; classes meet
Apr. 14	F	Readers' Reports are due for dissertations to be considered by the Degree Committee for award of the Ph.D. in
Apr. 17	M	Oral Proficiency Assessment for international students in all GSAS degree programs
Apr. 17	M	Deadline for departments to return Degree Recommendation Forms for May graduation
Apr. 17	M	Final day to withdraw a degree petition for degrees to be awarded in May
May 4	T	Classes end, 5:20 p.m.
May 5	F	Final examinations begin
May 10	W	Final examinations end
May 21	SU	Graduate School Convocation
May 22	M	University Commencement Date of May degree award
Jun 2	F	Final grades for spring-term courses and full-year courses are due
Jun 2	F	Final day that faculty may submit a request for the assignment of a grade of Temporary Incomplete

Appendix 1: Required Coursework Timeline

Term 1 – Year 1, Fall Semester

At least one but typically two of the following:

Physiological Systems

Molecular Mechanisms of Disease

Principles of Pharmacology

Seminar: Topics in Translational Molecular Medicine, Pharmacology and Physiology – fall

Laboratory Rotations, Responsible Conduct in Research (“Ethics in Science”)

Term 2 – Year 1, Spring Semester

Physiologic function and cellular structure of organ systems (new PTB course, will replace the former Systems Cell Biology)

Seminar: Topics in Translational Molecular Medicine, Pharmacology and Physiology – spring

Introduction to Biostatistics in Clinical Investigation (or other statistics-based course such as ENAS549).

Laboratory rotation(s)

Term 3 – Year 2, Fall Semester

Mentored Clinical Experience

Grant Writing Course

Additional electives (if needed or desired)

Term 4 – Year 2, Spring Semester

Mentored Clinical Experience

Additional electives (if needed or desired)

Note: Students who participate in the Medical Research Scholars Program, which currently serves students in all tracks and PhD programs of the BBS, would participate in an additional year of the Mentored Clinical Experience in Year 3.