



Yale Pathology
& Molecular Medicine

Graduate Student
Handbook 2026



Table of Contents

Fields of Study	2
Admissions Requirement	2
Joining a Lab for the Dissertation Research	2
Requirements for Completing the Ph.D. Program	3
Required Coursework for the Ph.D. Degree	3
MD/PhD Students	3
Requirements for Transfer Students	4
Timeline of Pathology and Molecular Medicine Graduate Student Requirements	5
Qualifying Examination (year two)	6
Formation of the Qualifying Exam Committee (Fall).....	6
Selection of a writing advisor as qualifying committee member.....	7
Reading period with two faculty members (Spring of Year 2)	7
Prospectus and Admit to Candidacy	8
Annual Dissertation Progress Report	9
Formation of the Thesis Committee and Dissertation Research.....	9
Bi-Annual Individual Development Plan (IDP)	10
Teaching Requirements.....	11
MPhil and M.S.	11
Dissertation Progress Report (DPR)	12
Research-In-Progress (RIP) Talks	12
Preparing and Submitting the Dissertation	12
Submitting Degree Petition and Dissertation in DPRS	14
Notification of Readers (NOR)	15
Thesis Seminar	16
Chief Graduate Students.....	16
Probationary Status	17
Registration.....	17
International Student Registration	17
Leave of Absence	17
In Absentia Registration	18
Parental Leave	18
Internships	19
Exchange programs.....	19
Dissertation Completion Status	19
Pathology and Molecular Medicine Graduate Courses	20

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The Pathology and Molecular Medicine Graduate Program is dedicated to fostering a supportive and inclusive community where students from all backgrounds and experiences can thrive. We are committed to promoting professional development, as well as the social and intellectual growth of every student. Our goal is to cultivate an inviting environment and an institutional culture that values and respects the unique characteristics and perspectives of every individual. We want every member of our community to feel welcomed, well-integrated, and at home.

Fields of Study

Fields of study include molecular and cellular basis of diseases, including: cancer biology; biochemistry; genetics; pathology of molecules, cells, tissues, and organ systems; plasma membrane dynamics; mitochondrial dysfunction; signal transduction; response to stimuli of connective tissue; assembly of viruses and their interactions with animal cells; somatic cell genetics and birth defects; biology of endothelial cells; and computational and high-throughput approaches to understanding disease pathology.

Admissions Requirement

A strong background in basic sciences is recommended for program applicants, including biology, chemistry through organic and physical chemistry, mathematics through calculus, biochemistry, genetics, and immunology. To enter the Pathology and Molecular Medicine Ph.D. program, students apply to an interest-based track, usually the Translational, Molecular Medicine, Pharmacology, and Physiology (TMMPP) track within the interdepartmental graduate program of [Biological and Biomedical Sciences](#) (BBS). After successful completion of year one, BBS students choose to join a specific department.

Joining a Lab for the Dissertation Research

The single most crucial decision made by a graduate student is the selection of a dissertation advisor and laboratory. The best way to assess a laboratory and one's "fit" to it is to carry out a research rotation in that laboratory. Other useful sources of information are advanced students, the Director of Graduate Studies and faculty. The DGS must approve the selection of a laboratory. The selection of a lab marks the assignment of a student from a track to an academic department.

Requirements for Completing the Ph.D. Program

- All Requirements of the Graduate School of Arts and Sciences must be met, including the Graduate School's two Honors Grade requirement by the end of the fourth term of full-time study.
- Students must maintain an overall High Pass average. Student progress toward these goals is reviewed at the end of the second term.
- Three Laboratory Rotations (2 for MDPHD)
- Completion of required coursework
- Satisfactory performance on Qualifying Exam, as determined by the student's Qualifying Exam Committee
- Serve as Teaching Fellow in **two TF10 level** courses (one for MDPHD)
- Presentation of acceptable research prospectus as determined by the student's Thesis Committee
- Continuing progress in dissertation research as determined by Thesis Committee meetings which must be held at least once annually (after prospectus)
- Annual presentations for the Research in Progress Talks beginning year three
- Annual updates to Individual Development Plan
- Submission of a dissertation judged to be acceptable by the faculty of the Department
-

Required Coursework for the Ph.D. Degree

- PATH 5620/PATH 5622: Laboratory Rotations (must complete three)
- PATH 5640: Developing and Writing a Scientific Research Proposal
- PATH 5650: Biology of Cancer
- PATH 5660: Responsible Conduct of Research
- PATH 5679/5680: Seminar in Translational, Molecular Medicine, Pharmacology & Physiology (full year)
- Full PATH 5690: Molecular Mechanisms of Disease
- PATH 5503: Responsible Conduct Refresher for fourth-year Students (Spring)
- Two additional graduate-level electives, which can include courses in biochemistry, genetics, immunology, cell biology, and pathology, to be chosen in consultation with the Director of Graduate Studies based on the student's background and interest. If there are any questions about whether a certain course will be accepted as one of these electives, please consult the Registrar and DGS.

MD/PhD Students

- Complete two Laboratory Rotations before joining a lab.
- PATH 5640: Developing and Writing a Scientific Research Proposal
- PATH 5650: Biology of Cancer (can be waived with DGS permission)
- PATH 5660: Responsible Conduct of Research (can be waived with DGS permission)
- PATH 5679/5680: Seminar in Molecular Medicine, Pharmacology & Physiology (Full year) (can be waived with DGS permission)
- PATH 5690: Molecular Mechanisms of Disease (can be waived with DGS permission)
- PATH 5503: Responsible Conduct Refresher; fourth-year BBS Students (Spring)

- Two additional graduate-level electives, which can include courses in biochemistry, genetics, immunology, cell biology, and pathology, to be chosen in consultation with the Director of Graduate Studies based on the student's background and interest. If there is any question about whether a certain course will be accepted as one of these electives, please consult the program DGS and Registrar
- Serve as a Teaching Fellow **for one TF10** level course.
- Annual presentations for the Research in Progress Talks beginning year three
- **MDPhD students follow the same regulations and deadlines unless otherwise indicated.**

Requirements for Transfer Students

- PATH 5640: Developing and Writing a Scientific Research Proposal
- PATH 5650: Biology of Cancer
- PATH 5660: Responsible Conduct of Research (can be waived with DGS permission)
- PATH 5679/5680: Seminar in Translational, Molecular Medicine, Pharmacology & Physiology (Full year) (can be waived with DGS permission)
- PATH 5690: Molecular Mechanisms of Disease
- B&BS 5503: Responsible Conduct Refresher for fourth-year BBS Students (Spring)
- Two additional graduate-level electives, which can include courses in biochemistry, genetics, immunology, cell biology, and pathology, to be chosen in consultation with the Director of Graduate Studies based on the student's background and interest. If there is any question about whether a certain course will be accepted as one of these electives, please consult the program DGS and Registrar
- Serve as a Teaching Fellow for **two TF10 level** courses.
- Annual presentations for the Research in Progress Talks beginning year three

See Graduate School Degree Requirements under [Degree Requirements < Yale University](#)

Timeline of Pathology and Molecular Medicine Graduate Student Requirements

For information on MDPHd and Transfer students, see sections above

	FALL SEMESTER	SPRING SEMESTER
Year One	PATH 5620: Research Rotations *PATH 5679: Seminar, TMMPP	PATH 5622: Research Rotations *PATH 5660: Responsible Conduct of Research or equivalent (DGS approval) PATH 5680: Seminar, TMMPP
	<i>Two elective graduate level, single-term courses completed by the end of year 2. *POSSIBLE Waiver for MDPHd students and transfer students with equivalent, DGS permission required.</i>	
Year Two	Choose a Qualifying Exam Committee PATH 5640: Writing a Scientific Research Proposal PATH 5690: Molecular Mechanisms of Disease	Sign up for QUAL 9999: Preparing for Qualifying Exams Hold Qualifying Exam PATH 5650: Biology of Cancer
	<i>The Graduate School requires the grade of Honors in two courses by the end of the second year. Please note, Teaching is not permitted during year two. No exceptions.</i>	
Year Three	Sign up for CAND 9999: Prep: Admission to Candidacy Choose a Thesis Committee First Thesis Committee meeting and presentation of the Prospectus Begin TA requirement; (PhD: Serve as Teaching Assistant in 2 TF 10 level courses; MDPHd: serve as a Teaching Assistant in 1 TF10 level course.) The department does not allow teaching at the TF20 level. No exceptions. Annual presentation at RIP begins in year three	
Year Four	Register for DISR 9999: Dissertation Research Annual Thesis committee meeting PATH 5503: Responsible Conduct of Research for fourth year students Present Research in Progress talk annually. Complete Dissertation Progress Report annually. TA Requirement must be completed by the end of year four.	
Final Year	Register for DISR 9999: Dissertation Research Finish data collection, complete analysis and write up dissertation. Complete Dissertation Progress Report Annually. Submit Thesis to Graduate School by October 1 (December Degree) or March 15 (May Degree) and July 1 (September Degree). Please see the Graduate Calendar. https://gsas.yale.edu/resources/academic-calendar Hold Thesis Seminar by December 5 th for December Degree, May 5 th for May degree and September 5 th for September Degree Annual Thesis committee meeting Present Research in Progress talk annually.	

Qualifying Examination (year two)

- 1) Enrollment in Developing and Writing a Scientific Research Proposal, PATH 5640 (prepare a proposal on the topic of the student's research. (Fall)
- 2) Formation of Qualifying Exam Committee; must obtain approval from the DGS. (Fall)
- 3) Enroll in QUAL 9999, Preparing for Qualifying Exam (Spring).
- 4) Hold Oral Exam no later than June 15th.

Developing and Writing a Scientific Research Proposal (PATH 5640: Fall, Year 2)

This course is designed to prepare students to write a proposal on the topic of the student's research. Students will receive critical feedback from peers and professors and will have a completed research proposal in the form of F31 NRSA research plan at the end of the course. This proposal serves as the foundation of the written portion of the qualifying exam (in the format of an NIH NRSA Research Strategy).

Formation of the Qualifying Exam Committee (Fall)

- 1) Students should form their proposed Qualifying exam committee members and send proposed committee to the DGS for approval (copy the registrar). A Committee must be identified and approved before the winter recess in December.
- 2) The qualifying committee consists of three faculty members in consultation with your PI. **At least one of the two required Pathology committee members must have a primary appointment in the Department of Pathology. The second may be primary or secondary; however, an additional primary is strongly recommended.**
- 3) The student will read with two faculty members individually, which forms the "reading period"
- 4) MDPHD students are required to have a non-voting committee member from the MDPHD program.
- 5) In special cases, a student can alter the composition of their thesis committee **with the approval of the DGS**. The thesis adviser is *not* on the qualifying exam committee.
- 6) Notify Registrar of Qualifying Exam date. Contact your PI's administrative assistant or Registrar to reserve a room.
- 7) **The deadline for holding your Qualifying Exam is no later than June 15th**, however it is highly recommended you hold the exam earlier due to committee member availability after mid-May.
- 8) It is the student's responsibility to bring the Qualifying Exam form to the exam.
- 9) You must complete a "MyIDP" career development plan before each committee meeting (See IDP section below).

Selection of a writing advisor' as qualifying committee member

A Pathology Primary faculty member serves as the Chair of this qualifying committee. The Chairperson is responsible for documenting the results of the exam for submission to the DGS

Reading period with two faculty members (Spring of Year 2)

- a) One committee member will assist the student during the proposal writing period and give the student feedback. This can be the same faculty member who gave student feedback in PATH 5640, *Developing a Scientific Research Proposal* course.
- b) Two of the three committee members are advisors for the reading period and should have expertise on specific topics related to the research proposal.
- c) During the reading period, the student and each committee member should select primary scientific literature papers that are related to the grant proposal and topic of faculty expertise.
- d) Students meet with these faculty individually to discuss the papers during the reading period. The number of papers discussed, and format of the discussion is at the discretion of each advisor.
- e) It is expected that each reading period will last approximately 2 weeks.

Completion of the Oral Qualifying Examination (Spring, year 2)

- a) Students must submit their written proposal to the Qualifying Exam Committee members at least one week prior to the exam.
- b) The oral examination will focus on the student's ability to present and defend their research proposal. The student should prepare a 30–40-minute presentation of the proposal, with visual aids. The committee will ask questions on topics presented in the proposal covered during reading period, general topics in Pathology and Molecular Medicine covered in coursework, and fundamental background knowledge related to the subject areas.
- c) The actual presentation will take longer since the exam committee as faculty will interrupt with questions. **Plan to schedule 1.5-2 hours for the exam.**
- d) Following completion of the examination, the student will be asked to leave the room for the committee to discuss the exam. The Exam Committee chairperson will complete [Pathology and Molecular Medicine Qualifying Exam Form](#) and discuss with the student and committee upon returning to the room. The student is responsible for bringing this form to the meeting. The signed form should be forwarded to the Registrar for processing.
- e) Students will receive a grade of Pass, Conditional Pass, or Fail.

Pass

Conditional Pass: The committee has the option of recommending an additional course in reading and/or written work. The DGS has final discretion in approving or modifying the recommendations of the committee.

Fail: If the student does not pass the exam, they should schedule a meeting with the DGS and advisor to determine the next course of action.

The deadline for holding your committee meeting is no later than **June 15**, however

It is **highly recommended** students hold their exam earlier than June 15, 2025, deadline as committee member availability after mid-May may be difficult. If a student receives a Conditional Pass or Fail, they may find it difficult to set up an additional committee meeting before the end of May if the committee needs to reconvene.

For additional information on the Qualifying exam process, refer to the Programs & Policies handbook on the Graduate School's Policy and Procedures Section.

Prospectus and Admit to Candidacy

- a) Upon successful completion of the qualifying examination, the student will constitute a thesis committee. The Thesis Committee must have a minimum of three faculty members in addition to the thesis advisor.
- b) Sign up for CAND9999, Preparing for Admission to Candidacy
- c) One committee member must hold a **primary** appointment in Pathology and serve as the committee chair. This cannot be the Thesis Advisor.
- d) A second member of the committee must have a **primary or secondary** faculty appointment in the Department of Pathology however a second primary faculty member is *strongly recommended*. This can be the Thesis Advisor.
- e) The DGS **must approve** membership of the committee.

The First Thesis Committee Meeting consists of a presentation and approval of the Thesis Prospectus. The student will prepare a document in the format of an [NRSA Research Plan](#) containing the specific questions and aims to be answered during the student's research project, the rationale for these questions, and the explanation of why various experiments will be performed to answer these questions. The prospectus should contain more preliminary data and ideally the final outline of the student's thesis project.

- 1) The student should send the final prospectus to the thesis committee at least 1 week prior to the committee meeting. At the beginning of the meeting, faculty will excuse the student to discuss the proposal.
- 2) The student will then return and proceed with a presentation of prospectus with visual aids.
- 3) At the conclusion of the presentation, the student is excused for faculty to discuss.
- 4) The thesis advisor is excused, and the student will privately discuss any additional questions with the committee and go over feedback on the form.
- 5) The Chair of the thesis committee (not the thesis advisor) will complete the Committee form. The student is responsible for bringing this form to the meeting and forwarding the fully executed form to the Registrar.

As a reminder, students must fill out the Career Development Plan (IDP) before the meeting. This plan must be updated at least annually to be discussed periodically with the thesis advisor. (IDP section below)

When the thesis prospectus is approved and the student has passed the qualifying exam and all course requirements are completed, the student is automatically advanced to Ph.D. candidacy

by the Graduate School, and the Registrar will complete an Admission to Candidacy Form.

The deadline for all students holding your Prospectus is no later than June 15th. It is *strongly* recommended that you hold exam earlier due to faculty availability.

Annual Dissertation Progress Report

Once admitted to candidacy, students are provided with information to access the DPR system. An annual Dissertation Progress Report is due every Year on April 1st until dissertation is submitted. <https://dissertation.yale.edu/dprs>

Formation of the Thesis Committee and Dissertation Research

In year three, following successful completion of the qualifying examination, the student will constitute the Thesis Advisory Committee (sometimes referred to as TAC or Thesis Committee). This is an important body that helps each student navigate the goals of dissertation research. The function of this committee is to periodically review and evaluate the student's progress, provide advice and expertise about the project, and certify when a student has completed sufficient work to begin writing the dissertation.

- a) The Thesis Committee must have a minimum of three faculty members in addition to thesis advisor.
- b) One committee member must hold a **primary** appointment in Pathology faculty member and serve as the committee Chair. This cannot be the Thesis Advisor.
- c) A second member of the committee must have a **primary or secondary** faculty appointment in the Department of Pathology however a primary faculty member is preferred. This can be the Thesis Advisor.
- d) In special cases, a student can alter the composition of their thesis committee with the approval of the DGS.
- e) Faculty members with expertise in area of dissertation research are particularly helpful and should be sought out as Thesis Committee members.
- f) Additional committee members may be added if deemed appropriate and can be added throughout the course of the dissertation.
- g) The Thesis committee can be the same as the Qualifying Exam committee; however, it is not required.
- h) Thesis Committee is assembled by students in consultation with the Thesis Advisor
*******Thesis Committee must be approved by the DGS.**

Annual Thesis Committee Meetings

Following approval of the prospectus, thesis committee meetings are required at least once per year, at the discretion of the Committee. Students should prepare a brief report and forward to the committee **at least one week** prior to the meeting.

Students are required to bring [Pathology and Molecular Medicine Thesis Form](#)

Once a meeting is scheduled, the student must advise the Registrar of the date.

At the committee meeting, the students should give a brief presentation, covering the

following:

- Data acquired since the last committee meeting.
 - Plans for the next 12 months.
 - The Committee can aid in interpreting the results, prioritizing experiments, and assessing whether the project is on track.
 - If a manuscript is in preparation, students are encouraged to include an outline in the Annual Report.
 - The outline could include:
 - A summary of the manuscript's main points
 - A list of subtitled sections A list of figures and tables, with brief descriptions of the data to be included in each.
 - It should be noted which experiments have been completed and which remain to be done.
 - If the student intends to graduate within 12 months, they should bring an outline of the Thesis. This should include:
 - A list of chapters with a brief description of the information to be contained in each. Publications and/or papers in preparation should be mentioned.
- Career development should be discussed at every Thesis Committee meeting (see below)

Bi-Annual Individual Development Plan (IDP)

The Individual Development Plan (IDP) is a unique, web-based career-planning tool tailored to meet the needs of PhD students in the sciences. myIDP provides:

- Exercises help you examine your skills, interests, and values.
- A list of twenty scientific career paths with a prediction of which ones best fit your skills and interests.
- A tool for setting strategic goals for the coming year, with optional reminders to keep you on track.
- Articles and resources to guide you through the process.
- Students are to define their career goals and develop a plan on how to achieve them. As part of this, students will define how they can collaborate with their mentor, thesis advisor, DGS, and graduate program to align expectations to meet these goals. Students are required to fill out the IDP <https://myidp.sciencecareers.org> to design their professional and career development trajectory every 6 months. This includes updating a list of career objectives and checkpoints. Careers are discussed but the student is not required to share the IDP document. Additional career development resources are available through the [Yale Office of Career Strategy](#)

Teaching Requirements

In accordance with the BBS program, Ph.D. students are expected to serve as a Teaching Fellow for two terms. Teaching assignments must be approved in advance by the DGS. Students may choose teaching fellow positions from numerous lectures, laboratories, and seminar courses offered at both the undergraduate and graduate level. Below is a list of requirements for teaching fellows in Pathology and Molecular Medicine

1. Students must start their TA requirement in the third year after they qualify.
2. **Students are not permitted to teach more than one TF10 in a semester.**
3. Students must complete their two TF10 teaching requirement by the end of year 4.
4. **TF 20 (20 hours in one semester) is not permitted under any circumstances.**
5. **2 TF10 level courses in one semester (such as the biology series) is not allowed.**
6. If students have a specific course they are interested in, they should contact the course director well ahead of the course beginning.
7. In late March, the BBS office will notify all graduate students of the teaching fellows' positions needed in the upcoming academic year. Students should indicate their interest in such positions and their preference for specific courses by submitting the BBS teaching survey in a timely manner.
8. MD/PhD students are required to serve as a TF for one course (at the TF-10 level).
9. Prior to the first semester of teaching, each student must attend *Teaching @ Yale Day (@TYD)*. This session is held prior to the start of each semester. Students are encouraged to take one or more of the short teaching courses and workshops offered by the [Center for Teaching and Learning](#) during the fall semester.
10. Students may elect to teach beyond the two-semester requirement. Extra teaching should not take time away from research. Permission of PI and DGSs **must** be obtained before committing to a department without prior approval.

Graduate School of Arts and Sciences (GSAS) and the Poorvu Center, offer a competitive Associate's in Teaching Program, allows Ph.D. students the opportunity to expand their range of teaching experiences and responsibilities while receiving mentorship from a faculty co-teacher, Additional information is available at <https://poorvucenter.yale.edu/teaching/teaching-programs-and-events/associates-in-teaching>

Master of Philosophy (M. Phil)

Pathology and Molecular Medicine students are eligible to receive a Master of Philosophy degree (MPhil) prior to receiving the PhD. This degree is referred to as en route degree; PhD students are automatically petitioned for this degree once all requirements are met in the term following advancement to candidacy. Therefore, students do not need to petition for an *en route* degree.

Master of Science (M.S.)

Students are not admitted to the Masters degree and are **not** eligible to receive this degree. The only exception is if they **are not** continuing the Ph.D.

Please note, a student is **not** eligible to petition or receive a Master of Science Degree once they have received an M.Phil.

Dissertation Progress Report (DPR)

Following admission to candidacy, students are required to complete a [Dissertation Progress Report](#) annually.

Students will receive an email reminder of the deadline. Following completion of the report by the student, their thesis advisor will complete their portion of the report, and it will be sent to the DGS who will review and approve and forward to Graduate School for final approval.

Research-In-Progress (RIP) Talks

Beginning in their third year, students are required to present annually at the Research in Progress (RIP) talks. These are weekly seminars held during the academic year typically consisting of two, 30-minute presentations on the projects of graduate students, post-docs, and research scientists in the Pathology Department. Attendance at these lectures is strongly encouraged (students in their second year are not required to present).

Preparing and Submitting the Dissertation

Notification Deadlines

September 1: Notify the DGS (cc registrar) of your intent to submit dissertation for December Degree.

February 15: Notify the DGS (cc registrar) of your intent to submit dissertation for May Degree.

June 1: TBA: Notify the DGS (cc registrar) of your intent to submit dissertation for September Degree.

Dissertation Submission Deadlines:

October 1st by 5:00 pm for December degree conferral

March 15th by 5:00 pm for May degree conferral

July 1st by 5:00 pm for September degree conferral

There are no extensions to the above dates.

Dissertations submitted after the above deadline will be processed in the following degree date.

- After the thesis committee has approved the writing of the thesis, the student selects a date for the Thesis seminar in consultation with the Committee. This seminar has a public and private component.
- Notify the Registrar of the Date of your seminar, Title, Location (or zoom link) **as soon as possible**. The date is determined in advance to give adequate advertising as well as for recording purposes.
- The entire Thesis Committee must be present at the seminar. Plan to schedule a location for the

seminar and allocate enough time for the private defense afterwards.

- The public defense typically lasts 1 to 2 hours and starts with an introduction of the student by the Thesis Advisor, then a 45–55-minute seminar by the student and then followed by questions from the audience members.
- This public seminar is immediately followed by a private meeting with the students and the Thesis Committee. The length of the meeting is variable. It is an opportunity for the committee members to ask any questions.
- Private meetings may last as little as 15 minutes or go longer than an hour.

The dissertation should demonstrate the student's mastery of relevant resources and methods and should make an original contribution to knowledge in the field. It is expected that a dissertation will have a single topic, however broadly defined, and that all parts of the dissertation will be interrelated but can constitute essentially discrete units. Beyond this principle, the faculty will apply the prevailing intellectual standards and scholarly practices within their fields in advising students regarding the suitable scope, length, and structure of the dissertation, including what constitutes an original contribution to that field.

In accord with the traditional scholarly ideal that the candidate for a doctorate must contribute to knowledge, all dissertations that are not accepted by the Graduate School are published electronically through ProQuest and are deposited in the collection of the Sterling Memorial Library. As such, classified or restricted research is not acceptable as part of the dissertation.

1. Results produced by collaborators should be excluded. If these results provide context for the student's original work, they can be briefly described in the text (but not shown in Figures unless the student actively participated in producing these results), and the contribution should be properly acknowledged. The student should draw his or her own illustrative diagrams rather than using or modifying published ones.
2. Note that the student must obtain permission from the publishers prior to reproducing published materials (even if it is from the student) in his or her dissertation. Treat a dissertation the same as a journal submission regarding copyright and plagiarism rules. Please ask your thesis advisor and collaborators for permission if your dissertation contains sensitive information. Please note, Pathology and Molecular Medicine *strongly* recommend that each student have at least a primary research manuscript in submission to a journal. The dissertation should demonstrate the student's mastery of relevant resources and methods and should make an original contribution to knowledge in the field. It is expected that a dissertation will have a single topic, however broadly defined, and that all parts of the dissertation will be interrelated but can constitute essentially discrete units. Beyond this principle, the faculty will apply the prevailing intellectual standards and scholarly practices within their fields in advising students regarding the suitable scope, length, and structure of the dissertation, including what constitutes an original contribution to that field.
3. In accord with the traditional scholarly ideal that the candidate for a doctorate must contribute to knowledge, all dissertations that have been accepted by the Graduate School are published electronically through ProQuest and are deposited in the collection of the Sterling Memorial Library. As such, classified or restricted research is not acceptable as part of the dissertation.

4. Results produced by collaborators should be excluded. If these results provide context for the student's original work, they can be briefly described in the text (but not shown in Figures unless the student actively participated in producing these results), and the contribution should be properly acknowledged. The student should draw his or her own illustrative diagrams rather than using or modifying published ones.
5. Note that the student must obtain permission from the publishers prior to reproducing published materials (even if it is from the student) in his or her dissertation. Treat a dissertation the same as a journal submission regarding copyright and plagiarism rules. Please ask your thesis advisor and collaborators for permission if your dissertation contains sensitive information.
6. Please note, Pathology and Molecular Medicine *strongly* recommend that each student have at least a primary research manuscript in submission to a journal.

Dissertation information links below should be the primary resource for dissertation information.

[Dissertation Submission | University Registrar's Office](#)

[Formatting](#)

Consult the Formatting Guide. [Formatting Guide](#). Ensure that your title and abstract pages are formatted correctly and that your dissertation is printed out single-sided.

For formatting questions, please email Dissertation Office: dissertationreaders@yale.edu
barbara.withington@yale.edu

The Pathology and Molecular Medicine department strongly recommends that each student have at least a primary research manuscript in submission to a journal before the Committee gives permission to the student to write their dissertation.

[Submitting Degree Petition and Dissertation in DPRS](#)

The [Degree Petition](#) page in DPRS consists of the degree petition, links to required surveys, and site to upload a pdf of your dissertation. **All Dissertation instructions, information and links are on this page. Please review carefully.**

Notification of Readers (NOR)

- Students create the Notification of Readers (NOR) in the [Dissertation Progress Reporting and Submission](#) (DPRS) site prior to submission of the dissertation.
- Students will have access to their Reader Reports once all the Reports have been submitted. The students should keep a copy of the Readers' reports for their records as the reports are only available for the term of the Degree. Once the degrees are awarded, students will no longer have access to the reports.
- All readers' comments should be carefully reviewed!

Should a reader indicate that a dissertation contains significant errors in typing, grammar, spelling, reference citations, or other textual matters, the student will be required to revise the dissertation by a date provided by the Committee. A new pdf of the dissertation must be uploaded to the DPRS system. The Graduate School must receive a letter from the Director of Graduate Studies indicating that the student has addressed the readers' concerns, before the dissertation can be recommended for a degree.

Final changes must be completed into DPRS within 30 days **after** the submission deadline. To make changes to your dissertation after it has been submitted, email dissertationreaders@yale.edu

If changes are required, the DGS must be notified. The DGS or Advisor will notify the student stating that the changes are minor or editorial and not substantive to the dissertation. Once the dissertation office receives the email, they will unlock the dissertation so that the revised dissertation can be uploaded.

If a dissertation is evaluated as failing, departmental practice determines the number of reevaluations normally permitted.

The Graduate School does not require departments to evaluate the dissertations of degree candidates who are no longer registered. The decision to review such dissertations rests with the department. **Please note the most up to date information on the Graduate School websites (links below)**

Registrar's Office Dissertation Resources

- [Academic System: Dissertation Progress Reporting & Submission \(DPRS\)](#)
- [Dissertation Progress Reporting FAQs](#)
- [Dissertation Completion Status](#)
- [Dissertation Submission \(Link opens in new window\)](#)
- [Dissertation Submission Video \(Link opens in new window\)](#)
- [NOR Submission Instructional Video](#)

Questions should be directed to **Dissertation Office** dissertationreaders@yale.edu

Thesis Seminar

- After the thesis committee has approved the writing of the thesis, the student selects a date for the thesis seminar in consultation with the Thesis Committee.
- Students are required to e-mail the title of the thesis and date/location of the seminar to the Graduate Registrar. We will need this information well in advance for both our records and to advertise to the entire Department. This seminar has both an open (public) and a closed door (committee only) session.
- The entire Thesis Committee must be present at the seminar. Plan ample time for the seminar as well as the closed-door session following the seminar.
- The public seminar typically lasts 1 hour and starts with an introduction of the student by the Thesis Advisor, then a 45-55 min seminar by the student, and then followed by questions from the audience members.
- The public seminar is immediately followed by a private meeting of the student and the Thesis Committee in the same location. The length of the meeting is variable and an opportunity for the committee members to ask any questions.

Deadline to hold your Thesis Seminar:

December 5th for December Degree

May 5th for May Degree

September 5th for the September Degree. As a reminder, faculty availability may be limited in the summer.

Chief Graduate Students

Each year, the Pathology Department faculty selects a Chief Graduate Student. Each Chief serves a two-year term, and there are always two Chiefs at any given time. Their terms are staggered so that as one Chief begins their first year, the other is in their second year.

Modeled after the Pathology Residency Program, the Chief Graduate Students act as a liaison between graduate students and faculty, helping to strengthen communication and collaboration within the department. They attend monthly research faculty meetings to represent the PMM graduate students, share updates, and ensure that student perspectives are included in program decision-making.

In addition to their role in faculty meetings, the Chief Graduate Students work closely with department leadership to organize the annual Pathology Research Retreat each fall and collaborate with the Pathology Chief Residents to further the department's mission of integrating clinical and research arms of Pathology. Throughout the year, they are also responsible for sharing updates from faculty meetings with the student body, hosting programming and events for graduate students, and serving as a resource and point of contact for students in the program.

This position provides meaningful leadership experience, fosters stronger connections across the department, and helps ensure that graduate students' voices are heard. Chief Graduate Students receive a small stipend for their service.

Outline of specific responsibilities:

- Host the PMM bootcamp for incoming second-year PMM students.
- Organize introductions for incoming second-year PMM students at RIP talks.
- Plan Pathology Research Retreat
- Organize selection of student-selected Grand Rounds speaker.
- Host student-selected Grand Rounds speaker.
- Represent students at Research Faculty Meetings
- Share relevant notes to students from Research Faculty Meetings
- Act as direct contact for students, along with DGS and registrar.
- Host semesterly “office hours” for questions about qualifying and prospectus.
- Plan semesterly student lunches with Chair of Pathology
- Collect student feedback regularly, especially after events (e.g. Research Retreat)

Probationary Status

Satisfactory progress means that the student has met all Graduate School and departmental requirements normally expected for each stage of the student’s program. In addition to satisfying these general Graduate School requirements, students must meet any additional requirements specified by their departments. Students who fail to make satisfactory progress may be placed on a probationary status pending satisfactory completion of requirements. Ph.D. students who have been admitted to candidacy must continue to demonstrate satisfactory progress toward the degree as determined by their Thesis Committee.

Registration

Students are normally given the first 10 days of classes to register. You will receive notification of the Online Course Selection deadline each semester. All students must complete the Online Course Selection. Online Course Selection and Instructions for same are found here: <http://www.yale.edu/sfas/registrar/>

International Student Registration

International students must register with the Office of International Students and Scholars before registering with the Graduate School. International students are strongly encouraged to use this office as a resource for any problems related to their foreign- student status.

Leave of Absence

A student in good standing who wishes to suspend progress towards their degree temporarily for personal reasons (i.e., maternity leave, financial necessity, health problems or other extenuating personal circumstances) may, with approval of the Directors and the Dean, be granted a leave of absence of up to one year for students who have successfully completed one year of study and two years for students who have been admitted to candidacy for the Ph.D. degree. Students on leave may not engage in full-time degree-related activities during the period of leave. However, students may participate in full-time teaching or other full-time employment

or pursue training for a special skill while on leave of absence. Students on leave of absence do not need to apply for readmission before returning to Yale. However, to be considered for financial aid in the year following a leave of absence, students must submit a formal application to the Program by February 1 of the year preceding their return. Students on leave will not be enrolled in the Yale Health Plan but may continue membership by paying full fees.

In Absentia Registration

Students whose circumstances require full-time study at another institution, or dissertation research on a full-time basis outside the New Haven area can register in absentia provided he/she receives prior written approval from the Program Directors and the Dean of the Graduate School. Students who register in absentia do not qualify for Yale Health Plan services unless they are paying full tuition but may enroll themselves and their dependents at full cost.

Parental Leave

Registered Ph.D. students who wish to modify their academic responsibilities because of the birth or adoption of a child may request parental support and relief during or following the term in which birth or adoption occurs. For the whole of the term in which the support and relief are granted, the student's academic clock stops, effectively adding an additional term to the total time to degree. During this period, students remain registered full-time, receive a standard financial aid stipend and Health Award, and receive modified departmental academic expectations that best suit the specific situation. The precise nature of the academic responsibilities undertaken or suspended during this period should be a matter of consultation between the adviser and the student, with the understanding that students are entitled to full relief from responsibilities for at least an eight-week period. Most students take an entire term of parental relief, but the relief may be split into two, with a student taking only eight weeks of relief during the term in which, or just after, birth or adoption occurs and then receive an additional eight weeks of stipend funded by the Graduate School postponed to a later term. Parental relief may not be combined with other funding. To arrange for parental relief, a student should contact the appropriate associate dean **four months prior to birth or adoption**. This benefit is limited to two birth or adoption events. [Parental Leave of Absence | Yale Graduate School of Arts and Sciences](#)

Medical Leave

Requesting medical leave is a two-step process:

1. Student must request an appointment with the appropriate Yale Health chief clinician in Mental Health and Counseling or Student Medicine, who will recommend the leave in writing to the dean's office; and
2. Complete the [change of status form](#) and return it to your department/DGS for signing. If you are on a Yale-sponsored visa, you should reach out to [OISS](#) to see how a leave will impact your visa status. A student who is making satisfactory progress toward degree requirements is eligible for medical leave at any time after matriculation. The full set of official policies governing leaves of absence can be found in the Graduate

School's [Programs and Policies Bulletin](#).
<https://gsas.yale.edu/resources/leaves-absence/medical-leave-absence>

Internships and Exchanges

1) Full-Time Summer Internships

Under certain circumstances, a full-time summer internship can be a powerful way to explore a new field. Several organizations offer internships specifically for graduate students. Yale also offers structured summer programs like the [President's Public Service Fellowship](#).

Important: GSAS has specific policies regarding full-time internships and part-time work over 10 hours/week. Be sure to review the [GSAS Academic Regulations](#) and complete the [Request for Summer Internship Form](#) if required. International students should also consult with an OISS adviser before accepting any position.

2) Exchange programs

To participate in an outbound exchange program, Yale students must be enrolled in a PhD program and have completed at least one year of their program.

To participate in an inbound exchange, visiting students must be nominated by their home institution prior to applying for Exchange Scholar status at Yale and have the approval of a Yale faculty member who will serve as their adviser while here.

3) Exchange proposals must be for a minimum of three months in duration, up to maximum of a year. [Exchange Programs | Yale Graduate School of Arts and Sciences](#)
[IvyPlus Exchange Scholar Programs](#)

The IvyPlus Exchange Scholar Program allows our PhD students to study and conduct research at one of the other 11 participating IvyPlus institutions for a term or an academic year at no additional tuition cost. <https://gsas.yale.edu/ivyplus-exchange-scholar-program>

Dissertation Completion Status

A doctoral student who is not eligible for full-time registration may request to enroll with the status "Dissertation Completion." This status enables advanced students to maintain an active NetID to access electronic library resources and their Yale e-mail accounts while completing their dissertations under the supervision of a member of the Graduate School faculty.

This handbook is updated annually with the input of Chief Graduate Students as well as student feedback. Substantive additional changes that occur during the year are communicated to students by the Graduate School, Pathology DGSs and/or Registrar.

It is important to periodically review all Graduate School Requirements

Pathology and Molecular Medicine Graduate Courses

PATH 5620 and 5622: Laboratory Rotations in Pathology and Molecular Medicine

Themis Kyriakides

Laboratory rotations for first-year graduate students.

PATH 5630: Biomaterial-Tissue Interactions

Themis Kyriakides

The course addresses the interactions between tissues and biomaterials, with an emphasis on the importance of molecular- and cellular-level events in dictating the performance and longevity of clinically relevant devices. In addition, specific areas such as biomaterials for tissue engineering and the importance of stem/progenitor cells, and biomaterial-mediated gene and drug delivery are addressed.

PATH 5640: Developing and Writing a Scientific Research Proposal

Katerina Politi, Jean-Ju Chung; Rui Chang, Nelson LaMarche, Stephania Libreros, Renato Polimanti

The course will cover the intricacies of scientific writing and guide students in the development of a scientific research proposal on the topic of their research. All elements of an NIH fellowship application are covered, and eligible students will submit their applications for funding.

PATH 5650: Biology of Cancer

David Stern, Qin Yan

A comprehensive survey of cancer research from the cellular to the clinical level. The relation of cancer to intracellular and intercellular regulation of cell proliferation is emphasized, as are animal models for cancer research. Background in molecular genetics and cell biology is assumed. Open to advanced undergraduates with permission of the organizers.

PATH 5660/C&MP 5650/PHAR 5580: The Responsible Conduct of Research

Barbara Ehrlich

Organized to foster discussion, the course is taught by faculty in Pharmacology, Pathology, Physiology and Translational departments and two or three senior graduate students. Each session is based on case studies from primary literature, reviews, and two texts: Francis Macrina's Scientific Integrity and Kathy Barker's At the Bench. Each week, students are required to submit a reaction paper discussing the reading assignment. Students take turns leading the class discussion; a final short paper on a hot topic in bioethics is required.

PATH 5670: Pathobiology

Jon Morrow, Karin Finberg, Samuel Katz, Declan McGuone, Harold Sanchez

An introduction to human biology and disease as a manifestation of reaction to injury. Topics include organ structure and function, cell injury, circulatory and inflammatory responses, disordered physiology, and neoplasia.

PATH 5679 and 5680: Seminar in Molecular Medicine, Pharmacology and Physiology

Titus Boggon, Arnaud Augert, Emanuela Bruscia, Christopher Bunick, Yansheng Liu, Caleigh Mandel-Brehm, Hongying Shen, Susumu Tomita

Arnaud Augert, Caleigh Mandel-Brehm, and others (from other departments)

Readings and discussion on a diverse range of current topics in molecular medicine, pharmacology, and physiology. The class emphasizes analysis of primary research literature and development of presentation and writing skills. Contemporary articles are assigned on a related topic every week, a student leads discussion with input from faculty who are experts in the topic area, and the rest of the class submit written proposals based on the assigned research literature. (2 semester course)

PATH 5681: Advanced Topics in Cancer Research

Kurt Schalper and Ryan Jensen

This advanced course focuses on readings and discussions on three or four major topics in cancer biology, such as targeted therapy, tumor immunology, tumor metabolism, and genomic evolution of cancer. For each topic, the class starts with an interactive lecture, followed by critical analysis of primary research literature. Recent research articles are assigned, and a student leads discussion with input from faculty who are experts in the topic area. Prerequisite: PATH 5650 or permission of the instructor. Open to all Ph.D., M.D./Ph.D., and M.P.H. students and to advanced undergraduates at the discretion of the instructor.

PATH 5682: Cancer Clinical Translation

Samuel Katz, Ranjit Bindra and Won Jae Huh

This course builds upon basic cancer biology knowledge to see the impact of scientific knowledge on real-world clinical oncology issues through didactic sessions, working tumor board attendance, and workshop discussions. The first half of the course emphasizes practical issues in moving research ideas into the clinic, design, and execution of standard and novel forms of clinical trials, and statistical analysis of clinical trial data. The second half covers the perspectives of clinicians on the most important outstanding biological questions that should be addressed by cancer investigators. The class size is limited, with priority for Cancer Biology Training Program trainees. Advanced undergraduates or graduate students may be admitted with the permission of the organizers.

PATH 5690: Molecular Mechanisms of Disease

Sathish Ramakrishnan 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.

PATH 5503: Responsible Conduct of Research, (fourth year students)

As mandated by the NIH, all trainees receive a refresher in ethics in their fourth year.

The fourth year RCR course has established a four-part re-training experience. Fourth year Trainees participate in a re-training program, which involves four two-hour lectures totaling eight contact hours focused on ethical considerations such as authorship, data manipulation, plagiarism, data falsification, civility issues in research environments and mentee and mentor responsibilities. All students are required to attend all four 2-hour sessions.