



VCU

School of Medicine



VCU

School of Medicine

Medical Scientist Training Program

Student Handbook

Version 2024

MSTP Handbook

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Changes from Version 2023

Items below indicate changes from the prior version of the Handbook that are considered by Program Leadership or Student Council to be major and worthy of highlighting. Strikethrough indicates deletions and underline indicates insertions.

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Diversity Statement was modified, as follows:

The Director, Associate and Assistant Directors, and Program Administrator of the VCU Medical Scientist Training Program (MSTP) recognize that we are in a position of power and privilege. We pledge to use these advantages to promote an inclusive environment where everyone's voice is heard and respected.

We celebrate, value and aim to expand the diversity that our students bring ~~It is our strong desire that students in this program bring a wealth of diversity~~ to our community, expressing opinions reflecting the influence that their race, ethnicity, national origin, socioeconomic status, gender identity, sexuality, disabilities, class and religion have had on their perspectives. This diversity adds depth and value to our mission, which is to train diverse physician-scientists to improve human health through scientific investigation and compassionate healthcare and to serve as role models for future trainees. To optimize interactions among trainees, staff, participating faculty, and leadership, we will:

- Use preferred names and pronouns.
- Cultivate a welcoming environment for all our trainees, faculty, and staff ~~an environment that encourages participation without fear of aggression.~~
- Require mentorship training, including instruction in mentorship of trainees from diverse backgrounds ~~trainees~~, of all our participating faculty members.
- Provide opportunities for all perspectives to be heard at all ~~MD-PhD~~ MSTP events and via anonymous comments through Student Council, annual Individualized Training Plans, and anonymous annual survey.
- Provide multiple routes by which students can address concerns.
- Maintain a Steering Committee that reflects the diversity of our trainees and community and provide opportunities for our trainees to interact with these faculty members.
- Utilize multiple learning modalities to accommodate different learning styles.
- Coordinate with all of our training partners; graduate programs, Medical School course directors, and administration on both campuses, to ensure that these diversity goals are implemented throughout training.

We are aware of the cumulative toll that microaggressions and omissions exact on individuals who are not members of majority groups. Discrimination, bullying, or harassment by faculty, staff, or students will not be tolerated. Whether overt or subtle, deliberate or unintentional, allegations of these behaviors will be vigorously investigated and appropriate corrective measures will be taken. We strive to provide a nurturing environment in which all of our trainees achieve their full potential. If anything that occurs during training makes any of our trainees feel uncomfortable, we encourage them to report their concerns to Program Leadership, Student Council, or through the university or medical school. ~~We will investigate all allegations of discrimination, bullying, or harassment, whether overt or subtle, deliberate or unintentional. If anything that occurs during training makes any of our trainees feel uncomfortable, we~~

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~~encourage them to let us know by their preferred method, including anonymous comment.~~
General concerns about mistreatment of oneself or others can be sent directly to members of leadership or council in person, by email or via this VCU link, in which identifiers are optional. Specific concerns about discrimination can likewise be related directly to leadership, council, or via this VCU link. Please also see the VCU policy on discrimination and harassment.

Details about implementation of this policy are found in a document that will be distributed separately.

~~We will convene a committee composed of students and participating faculty to develop specific plans to accomplish the objectives and, by the end of 2022, we will distribute more specific information providing these details.~~

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New Assistant Program Directors added and prior Associate Director Dr. Neigh removed.

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- Completion of a mentorship training course, such as ~~Optimizing the Practice of Mentoring (OPM) 101: For Research mentors of Graduate Students, Fellows, and Early Career Faculty~~ Culturally Aware Mentoring, or an equivalent course.

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Student Council Responsibilities Table was updated as follows:

| Cohort | Name | Specific Responsibilities | Leadership Contact |
|--------|---------------------|---|---|
| M1 | TBD | Schedule meetings, take notes, <u>help with retreat planning</u> (extends into M2) | Michael Miranda |
| M2 | Emily Notari | Plan fall retreat (extends into G1) | Miranda |
| G1 | Julia Hartman | Plan second look | Miranda |
| G2 | Galen Goldscheitter | Organize applicant activities (breakfasts and dinners) | Miranda |
| G3 | Yu Par Myo | Recruit seminar speakers and oversee feedback forms for student presentations | <u>Drs. Cardounel (Fall) and Wattenberg (Spring)</u> Neigh |
| G4+ | Daniel Zhou | Update website | Michael, <u>Miranda</u> |
| M3 | Prat Narayan | Show up when possible! <u>Help with Return to M3 workshop</u> | |
| M4 | Chatman Clark | <u>Return to M3 workshop</u> , annual Survey and Program Evaluation | Miranda |

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Students in G-phase who meet milestones and requirements defined in this section will be eligible for travel support from the MD-PhD program to attend one of two national meetings; ~~such as~~ the MD-PhD Trainee Annual meeting in ~~Keystone~~, Colorado or the Association of

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American Physicians, American Society for Clinical Investigation, and American Physician Scientists Association combined and other special program activities meeting in Chicago.

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Full medical school and graduate school tuition is provided by the VCU MD-PhD program and PhD dissertation adviser. Students will receive a \$34,500 annual stipend each year for all years enrolled in the program. New students receive a stipend of \$4,000 (including \$1000 for relocation expenses) during the summer before they matriculate in medical school while they are doing research rotations, \$3000 of which will be deducted from their annual stipend. Students will have an additional \$1,000 added to their stipend after passing the PhD candidacy exams. MD-PhD students must submit an F30 grant (unless ineligible due to non-US citizenship or residency). For students who are members of recognized underrepresented minority groups, F31 grants may also include funding for the M3-M4 years and can substitute for F30 submissions. Each student who receives V30, F30 or F31 support that includes M3 and M4 years will have an additional \$1,000 added to their stipend.

The MD-PhD does not have additional funds for other student expenses.

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Virginia Commonwealth University School of Medicine Medical Scientist Training Program Diversity and Equity Statement

The Director, Associate and Assistant Directors, and Program Administrator of the VCU Medical Scientist Training Program (MSTP) recognize that we are in a position of power and privilege. We pledge to use these advantages to promote an inclusive environment where everyone's voice is heard and respected.

We celebrate, value and aim to expand the diversity that our students bring to our community, expressing opinions reflecting the influence that their race, ethnicity, national origin, socioeconomic status, gender identity, sexuality, disabilities, class and religion have had on their perspectives. This diversity adds depth and value to our mission, which is *to train diverse physician-scientists to improve human health through scientific investigation and compassionate healthcare and to serve as role models for future trainees*. To optimize interactions among trainees, staff, participating faculty, and leadership, we will:

- Use preferred names and pronouns.
- Cultivate a welcoming environment for all our trainees, faculty, and staff.
- Require mentorship training, including instruction in mentorship of trainees from diverse backgrounds, of all our participating faculty members.
- Provide opportunities for all perspectives to be heard at all MSTP events and via anonymous comments through Student Council, annual Individualized Training Plans, and anonymous annual survey.
- Provide multiple routes by which students can address concerns.
- Maintain a Steering Committee that reflects the diversity of our trainees and community and provide opportunities for our trainees to interact with these faculty members.
- Utilize multiple learning modalities to accommodate different learning styles.
- Coordinate with all of our training partners; graduate programs, Medical School course directors, and administration on both campuses, to ensure that these diversity goals are implemented throughout training.

We are aware of the cumulative toll that microaggressions and omissions exact on individuals who are not members of majority groups. Discrimination, bullying, or harassment by faculty, staff, or students will not be tolerated. Whether overt or subtle, deliberate or unintentional, allegations of these behaviors will be vigorously investigated and appropriate corrective measures will be taken. We strive to provide a nurturing environment in which all of our trainees achieve their full potential. If anything that occurs during training makes any of our trainees feel uncomfortable, we encourage them to report their concerns to Program Leadership, Student

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Council, or through the university or medical school. General concerns about mistreatment of oneself or others can be sent directly to members of leadership or council in person, by email or via [this VCU link](#), in which identifiers are optional. Specific concerns about discrimination can likewise be related directly to leadership, council, or via [this VCU link](#). Please also see the [VCU policy on discrimination and harassment](#).

Details about implementation of this policy are found in a document that will be distributed separately.

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Section 1 - Administration

Program Leadership

Overview

The core responsibilities of the program reside with the Program Director, the Associate and Assistant Directors, and the Program Administrator, who constitute the program leadership. The Program Leadership meets weekly to discuss MD-PhD business. Decisions regarding routine matters that affect the program are made during these meetings. Notes from these meetings, redacted of references to specific students, are distributed monthly to the students. The program administration also relies heavily on the advice of the MD-PhD Steering Committee and the Student Council.

Program Director, Michael Donnenberg, MD

Dr. Donnenberg is a Professor in the Departments of Internal Medicine, Microbiology and Immunology, and Biochemistry and Molecular Biology and Senior Associate Dean for Research and Research Training. Dr. Donnenberg is a physician, board certified in Internal Medicine and Infectious Diseases, who conducts research on the pathogenesis of enteric infections.

Associate Director, Larisa Litovchick, MD, PhD

Dr. Litovchick is an Associate Professor in the Department of Internal Medicine, Division of Hematology, Oncology & Palliative Care, and in the Department of Human and Molecular Genetics. Dr. Litovchick's laboratory studies the mechanisms that control cell proliferation. The ability of cells to halt proliferation and to enter quiescent state is important for embryonic development, maintaining the tissue and organ size as well as for tumor suppression. Dr. Litovchick has primary responsibility for admissions.

Assistant Program Directors Brain (Binks) Wattenberg, PhD, and Arturo (AJ) Cardounel, MD, PhD

Dr. Wattenberg is a Professor in the Department of Biochemistry and Molecular Biology. Dr. Wattenberg's laboratory is focused on the biology and biochemistry of sphingolipids. Dr. Wattenberg provides an experienced perspective on graduate training. His primary responsibility within MD-PhD Leadership involves curricula as well as guidance leading to and during the graduate phase of training.

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Dr. Cardounel is an Assistant Professor of Surgery and an attending cardiothoracic surgeon with a clinical practice focused on surgical treatment of coronary disease, valvular dysfunction and advanced therapies for heart failure. In addition, he leads a basic science laboratory focused on identifying novel therapeutic targets for treating vascular inflammation and heart failure. Dr. Cardounel brings an experienced perspective to both basic science and clinical mentoring. His primary responsibility within MD-PhD Leadership involves curricula and guidance about clinical training.

Program Administrator, Miranda Cox, MS

Ms. Cox is responsible for the day-to-day operations and management of the MD-PhD program. She manages the MD-PhD admissions process, oversees yearly events and logistics, manages finances and registration, and provides administrative and student support throughout program years. In conjunction with the Student Council, the Program Administrator supports student-directed activities such as the annual retreat, seminars, wellness activities and second look. She will be your go-to contact for day-to-day program questions, suggestions, and/or concerns, although students are encouraged to contact any member(s) of the leadership team upon experiencing an issue.

MD-PhD Steering Committee

The Steering Committee is the governing body for student advancement and promotion and for major programmatic changes. As the Steering Committee members are knowledgeable and engaged with the program, they also form the nucleus of interviewers for MD-PhD applicants.

The committee meets on alternate months except during the summer to discuss all issues pertinent to the program. Meetings are conducted under formal rules of order and decisions require simple majority votes. Notes from each meeting, redacted of references to specific students, are distributed to the students. Topics of discussion include the progress of current students, the MD-PhD curriculum, new initiatives, and recruitment strategies. The Steering Committee is currently composed of 27 members who represent a wide range of Departments and Graduate Programs. A minimum of 14 members must be present to enact programmatic changes or decide on the status of individual students. The members of the Steering Committee are appointed by the Program Leadership and serve five-year terms on a rotating basis. They are chosen to promote diversity and to represent as many Graduate Programs, Research Centers, and Institutes as possible. In addition to being productive investigators and members of the Graduate Faculty, they share an interest in and commitment to MD-PhD training. Many are physician scientists themselves and are ideally suited to provide guidance and to serve as role models for students. At least one member of each student's dissertation committee must be a current or recent member of the Program Leadership or Steering Committee. There is also a

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mix of senior, experienced faculty, along with junior faculty, who are closer to their own training experiences. A list of current Steering Committee members is available on Canvas.

Program Faculty

The MD-PhD training faculty (principal investigators) are involved in a wide range of cutting-edge biomedical research projects, providing a vast array of training opportunities. There are more than 600 faculty in the Virginia Commonwealth University School of Medicine alone, but not all are appropriate to mentor the graduate education of MD-PhD students. Program faculty are not restricted to the School of Medicine; they may come from the School of Dentistry, School of Pharmacy, College of Engineering, College of Humanities and Sciences, and other VCU Schools and Colleges. Faculty members should meet the following criteria to supervise MD-PhD students:

- Current research funding by a peer-reviewed mechanism (NIH, NSF, DOD or other governmental agency; some foundation grants);
- Productivity, as measured by publications in peer-reviewed journals and regular presentation of research results at national/international meetings;
- Record of training predoctoral/postdoctoral students; students and/or post-docs are currently in the lab. Those who have limited experience in training will be joined by a more senior co-mentor;
- Completion of a mentorship training course, such as Culturally Aware Mentoring, or an equivalent course.

Individuals are appointed to and removed from the list of Participating Faculty by consensus of Program Leadership.

Prior to joining a PhD training lab, students must have their mentor selections formally approved by the program leadership and complete a Mentor Agreement Form and a Transition to Graduate Studies Form.

Student Council

The Student Council consists of a representative of each class or cohort who are elected by their fellow students. The Student Council meets monthly, and the Program Director and Program Administrator are present at the start of each meeting to recommend items from the leadership for discussion. In addition, members of the Council regularly solicit new items for discussion from students in their cohorts. An anonymous online comment box is provided to students prior to each meeting. Student Council meetings are open to the entire MD-PhD student body and are advertised in the week prior to the meeting. Monthly meetings have formal agendas and meeting minutes, which are forwarded to the Program Director within one week of each meeting for response and archiving, and for distribution to the MD-PhD student body. Ongoing responsibilities of the Student Council include formation of subcommittees to plan the annual events, review of policies, wellness and social events, and other program-related

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matters. New elections are held in the fall. Current council members solicit nominees from each cohort. Self-nominations are welcome. Students vote only for a representative from the cohort to which they belong.

The following table lists the names and specific responsibilities of current Student Council representatives.

| Cohort | Name | Specific Responsibilities | Leadership Contact |
|---------------|---------------------|---|---|
| M1 | TBD | Schedule meetings, take notes, help with retreat planning (extends into M2) | Miranda |
| M2 | Emily Notari | Plan fall retreat (extends into G1) | Miranda |
| G1 | Julia Hartman | Plan second look | Miranda |
| G2 | Galen Goldscheitter | Organize applicant activities (breakfasts and dinners) | Miranda |
| G3 | Yu Par Myo | Recruit seminar speakers and oversee feedback forms for student presentations | Drs. Cardounel (Fall) and Wattenberg (Spring) |
| G4+ | Daniel Zhou | Update website | Michael, Miranda |
| M3 | Prat Narayan | Help with Return to M3 workshop | |
| M4 | Chatman Clark | Return to M3 workshop, annual Survey and Program Evaluation | Miranda |

Student Government Association Representative

The MD-PhD program is entitled to a representative to the [VCU Student Government Association](#) (SGA). The Student Council will coordinate the nominations and election of the MD-PhD SGA representative. The current representative is Anne Skelton.

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Section 2 - Training

Goals and Principles

The primary objective of our program is to capitalize on the rich research opportunities and comprehensive, integrated clinical experiences at VCU to provide outstanding training for a career as a physician-scientist. Our guiding philosophy is that our MD-PhD students are more than medical students also receiving separate graduate training; rather, they are receiving integrated training through activities that illuminate the connections between research and clinical medicine. The VCU MD-PhD program offers a combination of structure and flexibility to accommodate students with wide-ranging research interests. Our curriculum actively adapts to meet new challenges and incorporate new ideas through program-specific courses, practical experience, and professional development that improve the quality of the training program.

Overview of Training

| Academic Unit | VCU MD-PhD Program Curriculum by Year | | | | | | | | | | | | |
|--------------------|---|---------------------------------------|-------------------------|---------------|--|--------------------------------|---------------------------------------|-----------------|-----------------|----------------------|-----------------------|-------------------------|--|
| | Pre-M1 | M1 | | Pre-M2 | M2 | Pre-G1 | G1 | G2 | G3 | G4+ | M3 (continued) | M4 | |
| School of Medicine | | Scientific Foundations of Medicine | Applied Medical Science | | Applied Medical Science | USMLE Step 1 | 6-8 wks of M3 Clinical Clerkships | | Ambulatory Care | Ambulatory Care | Foundational Elective | M3 Clinical Clerkships | Acting Internship (wards) |
| | | Molecular Basis of Health and Disease | Marrow and Movement | | Respiration, Circulation and Excretion | | | | | | | | Acting Internship (critical care) |
| | | Principles of Physiology | Glands and Guts | | Mind, Brain and Behavior | | | | | | | | Advanced Clinical Electives |
| | | Principles of Pharmacology | | | | | | | | | | | USMLE Step 2 Interviews |
| | | Infection and Immunity | | | | | | | | | | | Non-clinical Advanced Electives (including research) |
| MD-PhD Program | Program Lunches | Lunch Seminar | Lunch Seminar | | Lunch Seminar | Reproducibility & Transparency | Lunch Seminar | Lunch Seminar | Lunch Seminar | Lunch Seminar | | Lunch Seminar | |
| | | Journal Club Science and Disease | | | | | | | | | | Senior Research Project | |
| | Vertical Groups and Social Events; annual program-wide activities: IDP, Program Retreat and Second Look | | | | | | | | | | | | |
| Graduate School | Lab Rotations | | | Lab Rotations | | | Dissertation Research | | | | | | |
| | | | | | | | Specific Graduate Coursework | | | | RCR refresher | | |
| | | | | | | | Responsible Conduct of Research (RCR) | Qualifying Exam | | | | | |
| | | | | | | | CRP or Dissertation | | | Dissertation Defense | | | |

The VCU MD-PhD curriculum is organized as shown in the table above. After initial summer laboratory rotations (red blocks), students matriculate into medical school (blue-green blocks), taking the first three semesters of preclinical courses. At the end of preclinical coursework, students study for and take the USMLE Step 1, then complete 6-8 weeks of M3 clerkships. Then they progress through 3-5 years of PhD research training, while also completing ambulatory care and an optional foundational elective during G2, G3, and G4 for M3 clerkship credit. The final transition occurs at re-entry into medical school for the remainder of their clinical training. Unique MD-PhD-specific activities are integrated throughout the curriculum (yellow blocks). Graduate credit (graded Satisfactory/Unsatisfactory) is given for two semesters of

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Journal Club (IBMS 651), and for Science and Disease (IBMS 652), Research Reproducibility and Transparency (RRT, IBMS 624), and for at least two credits of [Lunch Seminar Series](#) (MD-PhD Research Seminar, IBMS 653, each semester is one-half credit). In addition, participation in various meetings and events such as the annual [Fall Retreat](#) is required. Notably, completion of three or more months of required M3 clinical work before and during G phase provides inherent flexibility for the training plan to allow reentry clinical training after dissertation defense at any point from May and October. These, and many other activities, are described in detail in the following sections.

Preclinical Years

Laboratory Rotations

MD-PhD students are required to complete research rotations in the laboratories of potential PhD dissertation advisors. For most students, these rotations are completed in the summer prior to the M1 year and the summer between M1 and M2. However, there is additional time available for rotations in the summer following Step 1 and the initial M3 clinical rotation if students have not yet found an appropriate lab. Two brief (three- to four-week) rotations are scheduled for each of the first two summers. However, by mutual agreement with the mentor, students may remain in one laboratory for the entire summer (six-week minimum). Students must rotate through a minimum of two research labs prior to finalizing their lab choice and are required to spend six weeks rotating in the lab that they will join for their PhD. All six weeks may be done in one summer, or rotations may be completed in two three-week blocks over two summers. Following the summer rotations between M1 and M2, students will give a short presentation (15-20 minutes) on their summer research work during the MD-PhD [Lunch Seminar Series](#).

Choosing Laboratory Rotations and Programs

The program leadership approves laboratories for pre-M1 rotations based on their knowledge of VCU's research faculty and the incoming student's interests and preferences. M1 students are strongly encouraged to investigate laboratories for rotations between M1 and M2 at the earliest opportunity. Program leadership will assist the student in narrowing the list of potential rotation experiences. Final arrangements for the summer rotations between M1 and M2 should be in place by April.

While three weeks is not enough time to finish any meaningful project, it gives the student a chance to explore the dynamics of the lab and to sample some of the techniques commonly used. Students can choose lab mentors for their summer rotations from the list of participating faculty, by searching through VCU's departmental websites, or browsing the list of current and past faculty mentors on the MD-PhD Canvas site. Students are strongly encouraged to contact upper-level MD-PhD students for their input prior to selecting labs for their summer research rotations. Program leadership will be happy to facilitate these contacts.

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During the summer between M1 and M2 and continuing into the fall semester, there is a series of organized, weekly lunch meetings with individual PhD programs, usually with the PhD program director and/or graduate coordinator. During these meetings, students learn about research opportunities in the program, as well as the course requirements, [MD-PhD-specific requirements](#), and qualifying exams specific to each program.

For more information, see "[Tips on choosing a PhD Mentor](#)," below.

M1: First Semester

The first few months of the medical school curriculum is called the Scientific Foundations of Medicine and focuses on the normal human structure, function, growth and development. Courses include Molecular Basis of Health and Disease (biochemistry and genetics), Principles of Physiology, Principles of Pharmacology, Infection and Immunity, and Foundations of Disease (pathology). An outline of the curriculum for M1 and subsequent years can be viewed at (<https://medschool.vcu.edu/education/md-program/>). In addition to lecture courses, students participate in Physician, Patient and Society; Population Health and Evidenced-Based Medicine; Geriatrics; and Practice of Clinical Medicine, all of which run longitudinally throughout the M1 and M2 years. Practice of Clinical Medicine will teach students the art of physical diagnosis and physician-patient interactions and makes use of the state-of-the-art simulation center in the McGlothlin Medical Education Center. Throughout the curriculum, students are divided into small groups.

Approximately every other week, MD-PhD students will meet in the afternoon for 1.5-2 hours for sessions of either Journal Club or Science and Disease [note: for registration purposes, the M1 course is called Journal Club and the M2 course is called Science and Disease, regardless of the format of each session]. In Journal Club, research articles are chosen by faculty teaching in the curriculum ongoing at that time to integrate scientific exploration with the topics covered in medical school. All students are expected to read, be prepared, and to discuss each article. Science and Disease allows physician-scientist faculty members or a team of a clinician plus a basic scientist to present a case patient, who may be hypothetical or real and present for the discussion. The faculty member(s) discuss both the clinical aspects and the basic science behind the pathologic process in detail. Students play an important role in the discussion by asking questions of the patient, the scientist, and the physician. Journal Club predominates during the start of M1, with Science and Disease gradually displacing Journal Club as the pre-clinical curriculum progresses through M2.

M1: Second Semester

Beginning in January of M1, the curriculum shifts from the Scientific Foundations of Medicine to the Applied Medical Sciences Curriculum. This curriculum is organ-system-based and emphasizes clinical manifestations of disease. Courses include Marrow and Movement

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(hematology, oncology, orthopedics, rheumatology, and dermatology) as well as Glands and Guts (gastroenterology and hepatology, endocrinology and metabolism, and obstetrics and gynecology). The longitudinal courses and the specific MD-PhD courses Journal Club, and MD-PhD Research Seminar continue from the first semester of M1.

M2: Third Semester

The applied Medical Sciences Curriculum continues as do the longitudinal courses. Courses include Cardiovascular, Pulmonary, Renal, as well as Mind, Brain and Behavior (neurology and psychiatry). The MD-PhD lunch seminar series continues, Journal Club sessions becomes less frequent, and Science and Disease more frequent.

M2: USMLE Step 1 Study and Exam

Students take the USMLE Step 1 board exam in or before March of their second year. The School of Medicine designates a dedicated study time of about 6 to 8 weeks following completion of the M2 coursework. Students are also paired with a highly experienced faculty mentor in the Curriculum Office who assists students with planning their study time. The School of Medicine determines the deadline by which Step 1 must be completed, typically by the end of March. Students who choose to study remotely are excused from program activities during this period. Students are required to pass USMLE Step 1 to continue M3 clerkships, if begun. MD-PhD students who fail their first Step 1 exam are discussed in [Steering Committee](#) for placement on probation.

Pre-G1: M3 Clerkship and Transition to G Phase

After successful completion of USMLE Step 1, MD-PhD students have four months before their graduate (G-) phase officially begins in August. During this time, they will take six to eight weeks of M3 clinical clerkships, either two short 4-week clerkships or one longer 6-to-8-week clerkship, beginning with orientation in late March or early April. The time between USMLE Step 1 and M3 orientation is usually taken as vacation time, though it can also be utilized for additional lab rotations. The period following the M3 clinical clerkship (July-August) should be spent on the PhD dissertation project or, if no mentor has been found, on additional lab rotations. RRT (IBMS 624) is taken during this period. Following the completion of the M3 clinical clerkship in July, students will also need to formally transition to the PhD phase and register for their PhD coursework. Students cannot transition from M2 to G phase without signing and having their dissertation adviser sign a Mentor Agreement Form and Transition to Graduate Study Form (found with other MD-PhD program documents in Canvas).

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Graduate School Years

Overview of the Graduate Curriculum

Flexibility and program support are hallmarks of the student's transition into Graduate School. The School of Medicine provides the full stipend, tuition, and fees for the first year in graduate school. This support benefits you as it enhances flexibility in the timing of the decision to join a lab and relieves pressure on PIs to fund MD-PhD students while they take courses and complete qualifying exams. MD-PhD students receive considerable credit for their preclinical courses. The leadership has worked with each graduate program to eliminate unnecessary coursework and include maximum flexibility in the menu of possible courses. The course requirements differ for each PhD program and they can be found in the [VCU Bulletin](#). It is the responsibility of the student to be aware of individual doctoral program requirements and deadlines. Mentors, dissertation committees, and graduate program directors are all sources of information and guidance during the graduate phase.

Students begin PhD coursework and work with their graduate mentor to choose a dissertation committee within the first six months of G1. Regardless of program requirements, MD-PhD students must have a current or recent member of the Program Leadership or Steering Committee on their dissertation committee, and the committee must meet at least once every year. In traditional programs, required courses that do not duplicate the medical curriculum are largely completed during the G1 year. Additional required courses and elective courses recommended by dissertation committees are sometimes taken in G2. Non-traditional programs typically require more courses. In addition to RRT, taken during the summer before starting G-phase, all MD-PhD students are required to take a course in Responsible Conduct of Research (RCR) early in G-phase. Longitudinal instruction in RCR and RRT is provided annually in Research Seminar. All students must also take a biostatistics course relevant to their research during Graduate Phase. Students should be able to work with their mentors to formulate a hypothesis and set of specific aims by the first six months of G1. This will be critical for initiating selection of a dissertation committee, beginning productive dissertation research, and formulating an NIH F30 application.

Students successfully complete oral and written candidacy exams (qualifying exams), typically during the summer between G1 and G2, but no later than the end of G2 or six months after completion of required major coursework, whichever is later. Requirements can differ by program, but generally, the written qualifying exam consists of a grant application based upon the student's dissertation project. This same proposal is often adapted for F30 submissions. Some graduate programs require a separate written qualifying exam addressing key discipline-specific questions, followed by a grant proposal and oral defense. The oral qualifying exam is a crucial stage of the PhD training and demands both specific and broad-based knowledge. The remainder of the G-phase is committed to relevant conferences, seminars, journal clubs,

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laboratory work, manuscript submission and work towards successful completion of the PhD dissertation.

Students in G-phase who meet milestones and requirements defined in this section will be eligible for [travel](#) support from the MD-PhD program to attend one of two national meetings: the MD-PhD Trainee Annual meeting in Colorado or the Association of American Physicians, American Society for Clinical Investigation, and American Physician Scientists Association combined meeting in Chicago.

During the PhD years, students are required to attend the MD-PhD [Lunch Seminar Series](#), the [Fall Retreat](#), and [Second Look](#) each year. Furthermore, the following stage-specific activities will be completed:

F30 Grant Submission

Rigorous MD-PhD training includes the process of writing and submitting research grants. Submission of fellowship applications is a critical part of student training for successful careers as academic physicians. Therefore, unless ineligible (because of citizenship and residency status), all students are required to submit an F30 fellowship application to the NIH as soon as possible during the graduate training phase. If ineligible, students must submit a comparable training grant for which they are eligible. Note, the NIH deadline for first submitting an F30 is 48 months after initial matriculation (August after G2). During G1, all students are required to attend an F30/F31 Grant Workshop organized jointly by the School of Medicine Graduate and MD-PhD programs. Students are also encouraged to submit applications to other national organizations, such as the American Heart Association, the American Lung Association, or the American Cancer Society, as appropriate. Examples of successfully funded F30 applications are available on the MD-PhD program Canvas site under “Files” for reference.

Internal “V30” Proposals

The MD-PhD program has identified funds to support one F30-like internal award per year. All G1 and G2 students are eligible for initial submission. Those who are ineligible for an NIH F30 award are especially encouraged to apply. Applications follow the F30 instructions and are due in February (exact date to be announced). A committee composed of faculty with training grant experience and MD-PhD students who hold F30 or V30 grants will select a single awardee per year. The awardee will receive the increase in stipend and supplemental funding for training expenses, but not the stipend or tuition funds, that F30 recipients enjoy. Providing that all milestones are met, funding continues until graduation. Students may reapply once if they have submitted an NIH F30 grant or if they are ineligible to do so.

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M3 Coursework during the G Phase

It is critically important for MD-PhD students to maintain their clinical skills while pursuing their graduate education. With that goal in mind, students are required to complete the M3 ambulatory care course during the G2 and G3 years in 17 half-day sessions per year meeting approximately every other week, culminating for most students in half-day didactic sessions and a presentation during G3. Students are encouraged to seek an ambulatory preceptor in a specialty related to their research or career plans. A list of mentors recommended by MD-PhD students can be found in [Canvas](#). In addition, during G4, students are encouraged to complete a two-week long clinical foundational elective.

In addition to these required courses, students are encouraged to seek additional longitudinal clinical experiences, such as monthly attendance in a desired subspecialty clinic. The G-phase clinical experiences provide the opportunity to refresh the history, physical examination, and patient presentation skills they learned in PCM; to ease any anxiety regarding returning to medical school; to foster connections between their research and unmet problems in clinical medicine; to provide inspiration for later clinical research projects; to enable contact with physician role models who frequently serve as a valuable resource for career guidance and clinical advice; and to gain exposure to specialties they may want to pursue.

Research Publications

The experience of writing an original research manuscript, submitting it for publication in a reputable journal, responding to the criticisms of reviewers, resubmitting the manuscript, and making any additional edits for final publication, is an essential part of scientific research training. As such, prior to return to medical school, all students are required to have at least one first-author manuscript describing the research they conducted as part of their PhD studies at VCU accepted for publication in a peer-reviewed journal that is recognized by PubMed or Web of Science. Manuscripts on which two authors share credit for first authorship are acceptable. Students are strongly encouraged to work closely with their mentors at the earliest possible stage to identify a body of work for their first publication. Only students who have submitted a paper that has been favorably reviewed may petition the program leadership to consider granting an exception to enter M3. Students should create an [ORCID record and ID](#), a unique, persistent identifier of your scholarship, and inform MD-PhD leadership once they have done so.

Dissertation Defense

The PhD phase of training ends with successful Dissertation Defense, a requirement that must be completed prior to return to M3. After all required signatures are obtained, the dissertation must be uploaded to VCU Scholar's Compass prior to graduation, but preferably prior to return to medical school.

Students who successfully defend their dissertation in the fall semester and plan to continue conducting research with their mentor, returning to M3 the following spring, must enroll as full-

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time students and continue to receive support from their mentor at the student stipend level. Students who defend in the fall and wish to engage in activities other than research with their mentor must seek prior approval from program leadership.

Clinical Years

Transition

The preparation for and transition into clinical training is a crucial component of the MD-PhD training. As in the previous Med-Grad transition, flexibility in this phase of transition is the central feature for finishing graduate training and reentry. MD-PhD students can begin clinical clerkships in phase with newly rising M3 medical students in May, or up to October and still match and graduate with that medical school class. Entry prior to May is also possible, although the fact that rotations will coincide with more experienced students should be considered. Current M3 and M4 MD-PhD students organize a spring “Return to M3 Workshop” to aid G-phase students in the transition back to clinical training. This workshop may include simulated patients. Students should prepare ahead of time for these encounters as they would to obtain a history and perform a physical examination on actual patients. In addition, the program will reimburse students returning to clinical training who purchase a one-year subscription to the UWorld Step II Q-bank as an added resource.

M3 Year

M3 begins with a two-week mandatory orientation period in April. During M3, students receive clinical training by rotating through the various hospitals and ambulatory services. This rich clinical experience is supplemented by didactic presentations on practice-related topics. All students must complete the following clerkships (numbers in parentheses are subject to revision):

1. Internal Medicine (8 weeks)
2. Surgery (8 weeks)
3. Pediatrics (6 weeks)
4. OB/GYN (6 weeks)
5. Psychiatry (4 weeks)
6. Neurology (4 weeks)
7. Family Medicine (4 weeks)
8. Ambulatory Clerkship (4 weeks, completed during G2 and G3)

Each student submits their preference for the order in which they complete these clerkships to the Curriculum Office in December or January prior to their initial rotations after M2, and again prior to their expected return to clinical training. They are placed into clerkships to match their preferences as closely as can be accommodated. If the return to M3 is delayed, there usually is

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some flexibility in rearranging the block schedule although flexibility is not guaranteed. While most training occurs within the academic medical centers of the VCU Health System and the McGuire Veterans Administration hospital, some rotations may be at other affiliated hospitals.

M4 Year

M4 Curriculum

Students proceed to the final phase of training in M4, during which there are a minimum of eight required clinical four-week blocks. Required clinical courses include two Acting Internships (4 weeks each), one in a general ward team and one in critical care; and six [senior advanced clinical electives](#) (4 weeks each). The remaining 20 weeks of the M4 year can be spent in research, non-clinical electives, a USMLE Step 2 study month, an interview month, and other options. Many students opt for clinical experiences at other institutions, especially where they would like to match as residents.

The elective curriculum has been arranged primarily to allow those students who have definite goals to pursue them logically without adherence to a required curriculum. At the same time, it provides those who have not yet defined their goals an adequate assortment of electives from which to explore career options. Where standard elective choices seem too limiting, students are encouraged to approach individual faculty members to develop courses that more closely approach individual needs. A member of the M4 Committee is available to advise each student and to approve each student's program.

Senior Clinical or Translational Research (Capstone) Project

Based on data from the National MD-PhD Program Outcomes Study (<https://store.aamc.org/national-md-phd-program-outcomes-study.html>), alumni who are engaged in research often conduct translational or patient-oriented, rather than basic science, research. To provide the opportunity for an experiential experience in this potential career outcome, and to enhance their overall training experience and qualifications, M4 MD-PhD students are required to complete a mentored Senior Research Project, ordinarily undertaken during periods that are not among the eight required M4 clinical rotations. The research project must be clinical or translational in nature, *i.e.* not basic as broadly defined by the National Center for Advancing Translational Science (<https://ncats.nih.gov/translation/spectrum>). Although the project could be an extension of PhD research dissertation, it can be unrelated. Wright Scholars are expected to complete the project they described in their applications, with the understanding that plans often evolve. Broad latitude is given to students to select a project based on their personal interests and career plans. However, the project must be feasible within the available time, involve the generation of new knowledge (*e.g.* not a case report, opinion piece, or review of previously published information), and designed to advance the student's training. Resources available to assist the student in developing a project and selecting a mentor include a workshop, a list of prior mentors, discussions with program leadership during

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IDP meetings or *ad hoc*, and a list of projects completed by current and prior students. Conduct of the research at another institution is permitted. Students must prepare a brief proposal, approved by a faculty mentor, for submission to leadership by March of M3 for approval. Modifications to initial proposals may be submitted at any time prior to starting. Students are expected to present a poster describing this experience during the applicant [Second Look](#) event.

USMLE Step 2 Policy

All students are required to take U.S. Medical Licensing Examination Step 2 for the first time by October 1 after completion of their M3 year. Students are required to pass USMLE Step 2 for graduation. Students who do not pass Step 2 within one year of completion of all other requirements for the MD degree will be dismissed from school.

Section 3 - MD-PhD Activities and Information

Individualized Development Plan

Every student completes an Individualized Development Plan (IDP) every year and reviews that plan with the Program Director or an Associate Director. The IDP form can be found in Canvas. After selection of a dissertation advisor, the advisor is also expected to join this discussion during the graduate phase of training. The advisor is then asked to leave so the student can discuss concerns privately with a member of program leadership. During the IDP discussion, the student's progress toward each milestone is reviewed and the student's plans for training and career are discussed. The IDPs from prior years can also be helpful in this process.

Required MD-PhD Activities

The activities listed in this section are required for all MD-PhD students in the program. Of course, on occasion, students may experience unavoidable circumstances that make participation difficult or impossible. In such instances, they should seek an excused absence from the program director or course director.

Fall Retreat

Once a year, all students and Steering Committee faculty come together for the *Fall Retreat*, often held at the VCU Rice Rivers Center on the James River. The retreat includes scientific sessions, food, recreational activities, student-faculty interactions, and discussions relevant to students' careers or to the program. The meeting is organized by the students and is an opportunity to invite outside guests for discussions such as the training and life of a physician-

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scientist, grant writing, conflicts of interest, medical ethics, and program affairs. Guests have included alumni of the program, scientists at other institutions, NIH program officers, and VCU faculty.

Second Look

In early April, students are required to attend the *Second Look* for accepted MD-PhD students. This event includes a forum for graduate phase students to present a poster of their current research (required for G2+ students), for M4 students to present a poster of their senior research, and is an opportunity for accepted students to ask current students about their experiences at VCU and in Richmond. Additional events may include a potluck dinner for all students and a “Progressive Dinner” tour through Richmond, during which each course is served in a different region of Richmond in order to give them an idea of current students’ neighborhoods. Current MD-PhD students are requested to volunteer as drivers for the event or to host their home for a course of the meal.

MD-PhD Lunch Seminar Series

There are usually two *MD-PhD lunch seminars* per month. The series is organized as a graduate course, IBMS 653 MD-PhD Research Seminar (0.5 cr). Attendance is required for all students in M1, first semester M2, and all semesters except the final semester of graduate phase. Those for whom attendance is not required are encouraged to attend. Speakers include all M2 students, who present shorter talks about one of their summer research rotations, all G2 students, who present their dissertation progress, and invited faculty. Students receive written feedback on their presentations from members of the leadership and advanced students. Seminars are scheduled by a member of the Student Council. These seminars introduce (or reintroduce) a variety of research topics to students in their medical phase. Students must register for IBMS 653 each semester from M1 through the end of the PhD phase, with the following exceptions: one semester for Step 1 studying, the semester in which the dissertation defense is scheduled, and any semester in which graduate coursework conflicts with attendance. One absence is permitted per semester; further absences will require the completion of a make-up assignment on the topic of the missed seminar. Grading is Satisfactory/Unsatisfactory.

Student-led MD-PhD Activities

Our Program has a wealth of student initiated and managed activities. Their success is dependent on your active participation and we encourage you to get involved!

These activities include our Wellness Program, MD-PhD Student Council, American Physician Scientist Association (APSA), and Advocates for MD-PhD Women at VCU.

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MD-PhD Program Wellness Initiative

The MD-PhD program wellness initiative develops and maintains student health and wellbeing by: providing an evidence-based, holistic wellness infrastructure; producing excellent future physician-scientists by encouraging students to value caring for themselves first; instilling lifelong skills in self-awareness, self-care, mindfulness, compassion, and integrative health practices; and setting standards for a culture of vulnerability, kindness, diversity, and open communication.

Structure and Leadership

The MD-PhD program wellness initiative is organized and run by current MD-PhD students. One student is the leader of the wellness initiative. This leader is responsible for financial management of wellness initiative funds, final approval of programming, consolidating survey results to drive the initiative in a direction that most benefits students, and maintenance of initiative resources and materials. Also associated with the initiative are student wellness ambassadors to whom tasks are delegated by the initiative leader. Their responsibilities include dividing the workload to maintain the initiative at the discretion of the leader, promoting the initiative, and advocating for student wellness at all administrative levels.

Leadership Succession Plan

The wellness initiative leader will serve a year-term aligned with the calendar year (January to December). The wellness initiative leader will be selected by the wellness ambassadors and approved by the Student Council. In addition, the immediate past leader will continue to serve on the leadership board of the wellness initiative for the year succeeding their term to aid in the transition and support the current leader. The wellness ambassadors and Student Council can also decide a leader-in-wait at their discretion. This leader-in-wait will serve on the leadership board of the wellness initiative for the year preceding their term as leader to aid in the transition and support the current leader. At the end of the calendar year, the leader-in-wait will replace the current leader and the current leader will replace the immediate past leader in succession.

Programming and Resources

The MD-PhD program wellness initiative will work toward the above stated goals through several facets of programming and resources; monthly wellness-specific programming for students, an annual wellness competition, an annual wellness journey newsletter, and a student wellness resource guide. Wellness-specific programming for students occurs almost every month of the calendar year and is at the discretion of the wellness leader and wellness ambassadors. An annual wellness “competition” is occurs during the summer months until that year’s retreat. Students in each vertical group earn points for completing wellness-related items, which are decided by the initiative leader and wellness ambassadors. The wellness journey newsletter features the stories of 3-4 students per year and describes their concept of wellness and how they work to be well every day. Finally, the wellness resource guide is a [shared Google](#)

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[folder](#) which contains entry space for students to enter various community resources along with wellness-related resources and handouts.

Financial Support

The MD-PhD program wellness initiative is financially supported by program funds in a shared effort to achieve its goals and support students.

C. Kenneth and Dianne Wright Physician-Scientist Scholars

C. Kenneth and Dianne Wright generously established a \$4 million endowment to support the training of MD-PhD students in clinical and translational research. An annual announcement will be sent to eligible students soliciting proposals for consideration as Wright Scholars. Students in G2 or beyond may apply to become Wright Scholars by proposing one of the following: a clinical or translational dissertation plan, an additional aim for their dissertation that is translational or clinical if they don't already have one, or a clinical or translational M4 project. A group composed of current or recent investigators from the Steering Committee who conduct translational or clinical research plus current Wright Scholars will judge the merits of each application. Program Leadership will provide final approval for funding. Scholars can receive reimbursement of up to \$3K/year for approved educational activities, such as travel to a meeting to present results of their translational or clinical research, defray the cost of USMLE Step 2, or defray the cost of residency program interviews. The total endowment income, minus the cost of these allocations, will be divided by the number of students and that amount will partially defer medical school tuition and stipend costs for each scholar. These funds are not intended to offset tuition, fees or stipend costs paid by mentors, except under extraordinary circumstances such as when no other funding is available. Annual reappointment as a Wright Scholar requires submission of a one-page progress report on the funded project that is deemed to be acceptable by Program Leadership, that the scholar remains in good standing in the program, and that the scholar agrees to serve on the Wright Scholar Subcommittee to review future applications.

Additional Program Information

Selecting a PhD Mentor

Mentor was entrusted by Odysseus to act on his behalf as a surrogate father for Telemachus during the Trojan war. Mentor (or the goddess Athena disguised as Mentor) was the wise, experienced, trusted advisor who guided Telemachus during his formative years and emboldened him to act when action was required. "Participating Faculty," available in Canvas, is a list of potential mentors vetted by Program Leadership. Several factors are considered by Program Leadership when adding (or removing) members of the Participating Faculty: (1) they

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must be a member of the faculty of one or more MD-PhD dual degree doctoral programs; (2) they must be an independent investigator who directs an active lab engaged in research published in respected journals; (3) they must have record of external funding and be a principal investigator of a current nationally competitive grant; (4) they must have a record of training doctoral students and post-doctoral fellows or be willing to accept a co-mentor with such experience; (5) they must be able to commit the required effort to mentoring the student; and (6) they must complete required mentorship training.

Selecting a mentor is one of the most important decisions facing MD-PhD trainees and trainees in general. Program leadership and fellow students are here to help in that decision. The first step is taken prior to matriculation when Program Leadership works with the incoming students to select investigators for the pre-matriculation rotations. Students take a more active role in selecting investigators for the rotations between M1 and M2, but Program Leadership remains active in guiding students for the second set of rotations and must approve the student's choices. To make the most informed decision, consider the following advice:

1. Speak with the Directors of the Doctoral Programs in which you are most interested early for their advice. The MD-PhD Program Administrator is happy to facilitate this, upon request.
2. Generate a list of faculty members whose research you find interesting.
3. Search the literature for your prospective mentor's publications and read some of these papers. Search [NIH RePORTER](#) for awards and dates.
4. Speak to current MD-PhD students and recent alumni who have experience with mentors on your list. Again, the Program Administrator is happy to facilitate this communication.
5. Discuss with Program Leadership.

During the rotations, students are advised to critically evaluate the prospective mentor, the laboratory environment, and the ongoing research. A mentor perfectly suited for one student may be a poor match for another. MD-PhD Leadership believes the key is to make informed decisions. Prior to selecting a mentor, students should take time for introspection so they realize what type of mentor they are seeking. When selecting a mentor, please consider the following:

1. What is the mentor's leadership style and how does that fit with your needs? Are they very involved in details or more concerned with the overall direction?
2. Do you have regular meetings with the mentor? Whose responsibility is it to initiate progress meetings?
3. How does the mentor communicate? Are they very encouraging or more demanding?
4. How often is the mentor present in the lab? Who can be approached for help when the mentor is not present?

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5. How do other lab members communicate? Do individuals work by themselves or is there a great deal of collaboration?
6. Is there any evidence that the mentor is not fully supportive or of mistreatment of any members of the group?
7. Do you feel totally comfortable in the lab?
8. Do you feel productive in the lab setting?
9. Are you excited by the preliminary results of the other members of the group and the direction in which the lab is headed and potential projects that are available?
10. Are the techniques utilized in the lab state-of-the-art and consistent with the technical training that you would like to attain?

Selecting a Doctoral Program

The list of doctoral programs participating in the MD-PhD degree can be found on our website and in [The Bulletin](#). Rising M2 students become familiar with selected PhD Programs through a summer series “PhD Program Lunches” with Directors, key faculty and MD-PhD students currently in that program. During these lunches, the students learn of research opportunities, course requirements, and qualifying exams specific for each program. For those interested in programs not among those scheduled for lunches, the Program Administrator is happy to arrange a meeting with the director. Students are advised to consider the specific program course requirements and the list of faculty members affiliated with each program as the major factors in choosing a program. Are the required courses of great interest to you? Will they help you to advance as a scientist? Are they relevant to your planned dissertation research? If your choice of mentor is not a member of the graduate program that you believe is best suited to your plans, inquire whether they can become one.

When you have selected a mentor and a program, you will submit a completed a completed Mentor Agreement form and the Graduate Study Transition form to the MD-PhD program.

MD-PhD National Meetings

At the discretion of program leadership, students in G-Phase have the opportunity to attend one of two meetings designed specifically for MD-PhD students, one in Colorado over the summer (occasionally held together with the annual meeting of MD-PhD directors) and one in Chicago (often held together with the annual meeting of the American Physician-Scientist’s Association (APSA)). At both meetings, students from MD-PhD programs throughout the country present research posters and share their experiences. These meetings offer valuable opportunities for students to present posters, talk about the future, hear presentations from the nation’s leading physician–scientists, and glean insight from students in other programs. The program

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administrator will email eligible students when registration opens and invite them to submit abstracts to the program director. If more abstracts are submitted than can be supported by travel funds, program leadership will select students based on the quality of the abstract and the phase of training of the student.

Section 4 - Standards of Academic Performance

Preliminary Statement and Governing Principle

Success in the MD-PhD Program requires an enhanced level of academic achievement, a dual commitment to both research and patient care that is distinct from what is required of students seeking single advanced degrees. In recognition of this commitment and the delay in earning imposed by prolonged training, MD-PhD students are provided financial support throughout their training. We, therefore, expect a high standard of academic performance and program participation from students. The following outline sets forth performance expectations and processes to be followed by faculty who monitor and evaluate academic performance in the MD-PhD Program.

General Application of School of Medicine and Graduate School Academic Requirements

- A. All students are required to meet the academic standards and criteria of the School of Medicine, the Graduate School, and the Degree Program in which they are enrolled.
- B. In the event that an MD-PhD student is reviewed by the Promotions Committee of the School of Medicine at any time during the M1 – M4 years, and it is recommended that the student repeat a year for not having met the required academic or professional competencies, the student will be discussed at the next steering committee to consider and vote on dismissal from the MD-PhD Program. Similarly, if a student is deemed by the appropriate graduate program committee to have failed to meet criteria for the PhD degree, the student will be discussed at the next steering committee to consider and vote on dismissal from the MD-PhD Program.
- C. Disciplinary action taken by the University, the School of Medicine, the Graduate School or any other VCU College or School in which the student may be enrolled is also considered to be in violation of the standards for the MD-PhD Program and may constitute grounds for dismissal from the MD-PhD Program.

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Annual Review and Assessment of Performance

- A. The performance of all MD-PhD students will be reviewed at the end of each academic year by the MD-PhD Steering Committee. At this meeting, the MD-PhD Steering Committee will be considered the MD-PhD Program Promotions Committee.
- B. The Steering Committee will review students who exhibit academic or attendance deficiencies. Steps for improvement are conveyed to the MD-PhD Program Director who will have the responsibility to counsel the student. A letter describing the deficiency and the counseling session will be delivered to the student and placed in the student's file.
- C. Students exhibiting the following serious academic deficiencies will be referred to the MD-PhD Steering Committee in its role as the MD-PhD Promotions Committee (a separate and distinct body from the School of Medicine Promotions Committee):
 - A final grade of failure or unsatisfactory performance (competency not achieved) in any course or rotation in M1 through M4
 - Consistently poor performance in M1 or M2 as reflected by class average in the bottom quartile (25%)
 - Failure in any section of a required M1-M4 course that requires successful completion of a remediation examination for advancement.
 - A grade of less than B or an Unsatisfactory grade in any graduate course
 - Failure of the USMLE Step 1 or Step 2 boards on the first attempt
 - Failure or unsatisfactory performance in any graduate school qualifying exam on the first attempt
 - Failure to participate in seminars, journal clubs and special lectures required by the student's PhD department or program.
 - Unsatisfactory performance in or dismissal from the mentor's laboratory

The following are considered to be inadequate performance worthy of review by the Steering Committee:

- Failure to attend at least 75% of MD-PhD-specific graduate courses (e.g., Science and Disease, Journal Club, MD-PhD Research Seminar), for which a grade of Unsatisfactory also may be assigned.
- Failure to attend the retreat for two years in a row without an approved absence.
- Delay in completion of graduate studies beyond five years.

Professionalism

- A. The MD-PhD Program in the VCU School of Medicine is committed to a culture of professionalism essential for the highest standards of patient care and safety, medical education, research and research training, and adopts the policies on professionalism listed in the School of Medicine Student Handbook. The MD-PhD Program has additional standards of professionalism, as noted in this section *in italics*.

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- B. The following standards describe behaviors expected from all members of the School of Medicine (SOM) community, in educational, clinical, research, and administrative settings. Professionalism is expected during all interactions, whether face-to-face or via telephone, video, email, or social networking technologies.
- C. Members of the SOM Community will:
- Recognize their positions as role models for others in all settings.
 - Carry out academic, clinical and research responsibilities in a conscientious manner, make every effort to exceed expectations and make a commitment to life-long learning.
 - Treat everyone in the SOM community with sensitivity to diversity in culture, age, gender, disability, social and economic status, sexual orientation, and other personal characteristics without discrimination, bias or harassment.
 - Maintain patient, research subject, and student confidentiality.
 - Be respectful of the privacy of all members of the SOM community and avoid promoting gossip and rumor.
 - Interact with all other members of the SOM community in a helpful and supportive fashion without arrogance and with respect and recognition of the roles played by each individual.
 - Provide help or seek assistance for any member of the SOM community who is recognized as impaired in their ability to perform their professional obligations.
 - Be mindful of the limits of one's knowledge and abilities and seek help from others whenever appropriate.
 - Abide by accepted ethical standards in scholarship, research and standards of patient care.
 - Abide by the guidelines of the VCU Honor System.
- D. The above standards were proposed by the Professionalism Committee, adopted by the School of Medicine in September 2001, and updated in September, 2010.
- E. In addition to the standards, professional behavior includes:
- Arriving to all sessions on time, prepared to begin at the designated time. See M1/M2 Class Attendance, Etiquette and Professional Behavior policy in the Student Handbook. Attendance policies are also reviewed at each clerkship orientation.
 - Completion of course/faculty/preceptor/clerkship evaluations. See Evaluations policy in the Student Handbook.
 - Communicate with administrators/faculty/peers using good judgement and respectful tone.
 - Dressing appropriately. See Recommendations for Professional Attire policy in the Student Handbook.
 - Meeting all of the Technical Standards as defined by the School of Medicine. See Virginia Commonwealth University School of Medicine Educational Objectives and Technical Standards policy in the Student Handbook.

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- Not participating in group activities remotely without appropriate permission. See Classroom Policies in the Student Handbook.
- F. Concerns about student professional behavior may arise from (a) faculty with whom a student interacts during a course/clerkship, (b) another faculty member, house staff member, staff member, student, or patient with whom the student interacts (c) failure to complete required assignments/tasks/evaluations at any time during medical school. In the Pre-Clinical Phase, these communications will be reported to the Office of Student Affairs *and to the MD-PhD Program Director*. In the Clinical Phase, the initial concern is reported to the respective clerkship and then to the Office of Student Affairs *and to the MD-PhD Program Director*.
- G. Upon receipt of an initial Early Concern Note, the appropriate administrator will meet with the student to discuss the report. After this discussion, recommendations will be made to the student regarding appropriate intervention. Professionalism concern forms may become part of a student's formal academic record.
- H. Students who receive more than one professional concern are discussed at the Promotions and Advancement meeting.
- I. *Professional behavior for MD-PhD students also includes:*
 - *Responding in a timely manner (1-2 business days) to communications, including emails, from program leadership when a response is requested.*
 - *Requesting in advance to be excused (unless due to an urgent situation) from any required MD-PhD activity or requirement.*
 - *Participating in non-required MD-PhD activities, including, but not limited to, meals with applicants, recruiting events, program evaluation, and program events.*

Academic Probation

- A. Remedial measures that may be recommended by the Steering Committee include but are not limited to the following:
 - The student may be put on probation from the MD-PhD Program. Students will be placed on probation as a warning with the understanding that a formal plan for remediation will be devised and implemented. For the next semester, performance will be closely monitored and the student will be expected to remedy any identified deficiencies. Ordinarily, probationary periods do not extend beyond one, and in some cases two, semesters. Probation is not continued for the entire time that a student remains in the Program unless imposed during M4.
 - Following a reportedly unsuccessful probationary period, the student will be advised that dismissal from the program is under consideration and will be given notice and an opportunity to submit a one-page written letter to the Program

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Director and Steering Committee explaining why they feel that they should not be dismissed.

- B. Written Notice of Remediation. Any remedial action recommended by the Promotions Committee must be communicated to the student in writing with all of the remedial steps clearly outlined, together with a time limit by which the action must be completed.
- C. Dismissal. Any student who fails to satisfy all remediation plans can be dismissed from the MD-PhD Program. This dismissal is permanent. The student does not need to pass through probation before being dismissed. Further stipends and financial support are forfeited upon dismissal.
- D. Status in other Programs Not Affected. A decision by the MD-PhD Program Steering Committee only applies to a student's status in the MD-PhD Program. Their status in medical and graduate school will be assessed by the relevant Promotions Committee.

Appeals

- A. Appeals Committee for Probation or Dismissal
 - Students may appeal decisions of the MD-PhD Promotions Committee (probation or dismissal) to an Appeals Committee appointed by the Dean of the School of Medicine. This committee shall be composed of faculty members knowledgeable about the MD-PhD program who are not currently on the Steering Committee or were not present for and did not participate in the decision under appeal.
 - Appeals are made in writing to the Dean of the School of Medicine. Appeals must be filed within five working days of the initial decision notification.
 - The Appeals Committee shall be appointed so that they can convene and reach a decision within ten working days. The recommendations of the Appeals Committee will be submitted to the Dean of the School of Medicine for consideration. The decision by the Dean is final.
- B. Written Notice for Probation or Dismissal Appeals

All correspondence relating to an appeal must be in writing and sent in accordance with the foregoing time frames.
- C. Other Appeals

For issues not related to probation or dismissal, such as the desire to appeal or dispute certain MD-PhD Program requirements, an *ad hoc* committee composed of current and former steering committee members and leadership will be formed to review and resolve the issue. The process is initiated by written request to Program Leadership by the student, who also has the option of adding a fellow student, to be named by Student Council, to the committee.

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Faculty Availability for Student Counseling

All faculty members involved in the MD-PhD Program are available at any time for advice if problems arise. Specifically, all faculty members on the MD-PhD Steering Committee have been chosen and have agreed to accept this position because of their interest in and knowledge of the Program. The names can be found in Canvas. Those faculty members assigned to specific areas of the Program are as follows:

All phases of the Program – Michael Donnenberg, MD, and Miranda Cox, MS

M1, M2 – Luan Lawson, MD, Chris Woleben, MD

Graduate Phase – Larisa Litovchick, MD, PhD, Binks Wattenberg, PhD, AJ Cardounel, MD, PhD

M3 and M4 – AJ Cardounel, MD, PhD, Luan Lawson, MD

Section 5 - Funding

Full medical school and graduate school tuition is provided by the VCU MD-PhD program and PhD dissertation adviser. Students will receive a \$34,500 annual stipend each year for all years enrolled in the program. New students receive a stipend of \$4,000 (including \$1000 for relocation expenses) during the summer before they matriculate in medical school while they are doing research rotations, \$3000 of which will be deducted from their annual stipend. Students will have an additional \$1,000 added to their stipend after passing the PhD candidacy exams. MD-PhD students must submit an F30 grant (unless ineligible due to non-US citizenship or residency). For students who are members of recognized underrepresented minority groups, F31 grants may also include funding for the M3-M4 years and can substitute for F30 submissions. Each student who receives V30, F30 or F31 support that includes M3 and M4 years will have an additional \$1,000 added to their stipend.

Any additional benefits offered to a new class of entering students (e.g. an increase in stipend or health insurance) are automatically extended to all students currently in the program. All students in the graduate phase who are up to date with milestones are provided [travel](#) funds to attend one of two MD-PhD national meetings. Students are able to take out additional federal loans if they qualify. All students are automatically covered by health system malpractice insurance when they engage in patient-related activities, whether during their medical school or graduate phases.

Students whose research has been accepted for presentation at a scientific meeting and whose mentor does not have the funds to cover the cost of attendance may petition Program Leadership for a one-time \$500 grant. School of Medicine Office of Graduate Education also has funds available to support presentations at conferences (contact Dr. Michael Grotewiel).

The MD-PhD does not have additional funds for other student expenses.

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Paid Employment

Paid employment is *strongly* discouraged by the School of Medicine; however, an appeals process is available. School of Medicine graduate programs generally do not permit students with stipends to have additional employment. If an MD-PhD student would like to pursue paid employment, they must first request an exemption from MD-PhD leadership, which are granted only under circumstances where the employment is beneficial to the student's academic progress.

Section 6 – Leave Policies

Annual Leave

During medical school years, MD-PhD students follow medical school policies on annual leave. During the graduate phase, the MD-PhD program follows the leave policy of the School of Medicine Graduate Programs. Students are not required to work on University Holidays, or on days when VCU is closed for weather-related events, although they may work at their discretion. Graduate students are granted 20 days each year for any combination of sick leave, personal leave, and vacation in addition to weekends and school holidays. Either the mentor or the MD-PhD student may request that the MD-PhD program office keeps track of leave days to prevent disagreements between mentor and student with regard to time off. Additionally, students acknowledge that the typical PhD training program often requires substantial periods where they will need to work in excess of 40 hours or 5 days per week; No overtime pay or additional vacation days will be granted for this effort.

Leave of Absence

In certain circumstances, it may be necessary for you to request an official leave of absence (LOA) for health or other personal reasons. This leave is unpaid. Students in medical training should request leave in advance in coordination with the School of Medicine and the MD-PhD Program Director. Those in graduate school will work with their PhD mentor, graduate Program Directors, the Dean's office in the Graduate School, and the MD-PhD Program Director. If the LOA is due to health concerns, a note from a health care professional documenting the need for the leave is required prior to the LOA, and a note establishing fitness to return from a LOA is required.

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Parental Leave

The VCU MD-PhD program has adopted the Ruth L. Kirschstein National Research Service Award federal guidelines for parental leave for all program trainees regardless of funding source. Either parent is eligible for up to a total of 75 days of paid leave; the leave must be officially requested by the student by letter to the Program Director.

Accommodations for a longer leave of absence (possibly unpaid) or other arrangements (such as paid telework where possible and appropriate) will be made on an *ad hoc* basis in consultation with the graduate mentor when the leave occurs during the graduate phase of training. When leave occurs during the medical phase of training, consultation will be with the School of Medicine Office of Student Affairs.

Parental leave policy as listed in Ruth L. Kirschstein National Research Service Awards in [NOT-OD-18-154](#).