



Handbook for the Department of Human and Molecular Genetics Graduate Programs

INTRODUCTION

Welcome to graduate training at VCU! This program handbook describes the general guidelines and policies governing the Graduate Programs in the Department of Human and Molecular Genetics and also highlights opportunities students may pursue to enrich their training experience. The document is designed to guide graduate students to a pathway for success by outlining requirements, expectations, and opportunities. It is not intended to be all-inclusive. A complete list of degree program requirements can be found in the [VCU Bulletin](#). The Graduate Program Director, with the assistance of the Department of Human and Molecular Genetics Curriculum Committee, is responsible for the implementation and management of these policies and practices subject to approval by the department Chair and the graduate faculty. From time-to-time, the information gets updated or revised. Students should follow the rules and policies in place for the semester in which they matriculated into the graduate program and direct any questions they have to the Graduate Program Director.

TRAINING PROGRAM OBJECTIVES

The programs are designed to provide students with outstanding academic and research training and other key skills that will help them advance to future careers in a broad spectrum of areas related to human and molecular genetics. The structure of the program provides a framework for the progressive development of a mastery of the current state of the subject matter in human and molecular genetics and an ability to synthesize this information and apply this foundation to the identification of key areas of investigation or experimentation in this discipline. The program relates the above framework to the development of the ability to design, implement and interpret experimental or statistical approaches which address the questions identified. In addition, the program will develop skills in the various means of communicating both the core of human and molecular genetics knowledge and the expression of study design, results and interpretation to a variety of potential audiences.

1. PROGRAMS

1.1 Ph.D. in Human Genetics

The Ph.D. degree requires at least **three (3) years** of study for students entering with a B.S. or B.A. degree and **must** be completed within **seven (7) years**. Students working toward the Ph.D. degree in Human Genetics pass through two stages of graduate study. The first stage consists primarily of required and elective course work; the second of original research leading to the doctoral dissertation. The first five (5) semesters of the doctoral program are intended to set the tone for a life-long research career by increasing the student's knowledge of different fields related to genetics and genomic sciences and developing their skills in writing, laboratory techniques and statistical methods, critical thinking, data interpretation, study design, literature research and review, and integration of data from multiple disciplines. The focus then shifts to the student's development as an independent researcher, with emphasis being placed upon the development and execution of an original

research project leading to the doctoral dissertation.

A Ph.D. is awarded as the ultimate recognition of a student's achievement of independent, creative, and publishable research. Students are expected to develop a high level of comprehension of the current concepts in fields related to human and molecular genetics, as well as a more detailed understanding of their specialized area of scholarship. Ph.D. students are encouraged to publish their research findings, but a specific number of publications are not required for degree completion. In general, it is expected that a dissertation will represent an original body of work that contributes to scientific knowledge and could be transformed into at least one or two first-author manuscripts. At present, almost all Ph.D. students graduate with a mixture of first-author and middle-author publications.

1.2 M.S. in Human Genetics Program

The M.S. in Human Genetics degree requires at least **two (2) years** of study for students entering with a B.S. or B.A. degree, and must be completed within **five (5) years**. No departmental funding is available for M.S. in Human Genetics students; however, M.S. students may be able to obtain financial aid through the university's financial aid office. Students working toward the M.S. in Human Genetics degree complete one (1) year of required coursework followed by research leading to a master's thesis. Each student must conduct an original investigation under the supervision of an advisor, prepare a thesis reporting the results of this research, and analyze its significance in relation to existing scientific knowledge. Students are expected to develop knowledge of their chosen area of inquiry and a mastery of skills necessary to complete their thesis research.

1.3 M.S. in Genetic Counseling Program

The M.S. in Genetic Counseling Program has its own separate student handbook that is made available to all students matriculating into the program. Please contact the M.S. in Genetic Counseling Program director at MS-GCProgram@vcuhealth.org to request access. Details about the M.S. in Genetic Counseling Program are also available in the [VCU Graduate Bulletin](#).

1.4 Dual Degree Program (Ph.D. Human Genetics/M.S. Genetic Counseling)

The department offers a dual degree program through which students earn both the Ph.D. in Human Genetics and the M.S. in Genetic Counseling degrees. In general, Dual Degree Program students complete all of the requirements for the Ph.D., including successful dissertation defense before transitioning to the M.S. in Genetic Counseling program. That said, students begin taking some of the coursework specific to the M.S. in Genetic Counseling program while working toward the Ph.D. For dual degree students, the expectation is that the Ph.D. program will be completed within **five (5) years**. Matriculation into the M.S. in Genetic Counseling Program would be expected to occur by year 6, with both degrees completed by the end of year 6. Some of the coursework completed for the Ph.D. program will count toward the M.S. in Genetic Counseling program, and vice-versa. Furthermore, the Ph.D. dissertation fulfills the M.S. in Genetic Counseling research requirements for these students. Students may matriculate to the Dual Degree Program as new students to VCU, or they may transition to the Dual Degree Program by applying during the first **two (2) years** of their Ph.D. training. Please see the [VCU Graduate Bulletin](#) for more information about the Dual Degree Program, including a typical plan of study, or contact the program director, John Quillin (john.quillin@vcuhealth.org).

1.5 Certificate in Clinical Genetics

The department offers a certificate in Clinical Genetics, completed through one (1) year (2 semesters) of coursework. The certificate program has its own separate handbook. Please contact the director of the

certificate program, Heather Creswick (heather.creswick@vcuhealth.org), for more information. Details about the program are also in the [VCU Graduate Bulletin](#).

2. CURRICULUM

Ph.D. students are expected to complete the majority of their required course work within the first five (5) semesters and must complete a minimum of 86 graduate credit hours. M.S. students are expected to finish the majority of their course work within two (2) semesters and must complete a minimum of 36 graduate credit hours. To minimize time-to-degree, all students should register for ~15 credit hours in the fall and spring semesters. During the summer semester, Ph.D. students should register for **three (3)** credits, while M.S. students should register for **one (1)** credit. If a student has successfully defended their dissertation/thesis but has not completed all filing requirements for the Graduate School and will be able to do so within 30 days of the start of the next semester, they must enroll for one (1) hour as per school guidelines. In order to be considered in good academic standing, a student must maintain a **3.0 grade point average and receive Satisfactory (S) or Passing (P) grades in HGEN 610 (Journal Club), HGEN 690 (Student Research Seminar), and HGEN 697 (Directed Research)**. Students failing to achieve either a 3.0 grade point average or an S/P in one (1) or more of these courses will be considered not in good standing. They will have one (1) semester to bring their grade point average up to a 3.0 and/or achieve an S/P in HGEN 610, 690, and 697. Failure to do so may result in termination from the program.

Please note that it is the responsibility of the student to verify their semester schedules in BANNER and make any changes required prior to the ADD/DROP deadline.

2.1 Required Courses

A list of required courses for each degree program can be found in the [VCU Bulletin](#).

2.2 Electives

Students should consult with their advisor and committee to identify beneficial elective courses. While students may enroll in or audit upper-level undergraduate courses to learn important background information, only courses completed at the 500-level or above will count towards the required course hours. Before enrolling in any elective course, students should verify that the course will count towards their degree requirements by first reviewing the Graduate Bulletin and then consulting with the Graduate Program Director.

2.3 Rotations (HGEN 605 or IBMS 621, 622, and 623)

Ph.D. students will do three (3) laboratory rotations during their first year of study. Each rotation is nine (9) weeks in length. The second rotation will straddle the two semesters so the student must register for two rotation sections in the fall semester. The student should spend a **minimum** of 15 hours per week in the mentor's lab. The student's performance in the laboratory will serve as the basis for the grade for the rotation courses (IBMS 621, 622, and 623), and will be graded as follows: Satisfactory [S], Unsatisfactory [U], Fail [F]. Each faculty member who has a student rotating in their laboratory must provide a written summary of their progress. The student will prepare, with assistance as needed, a poster or oral presentation for the BSDP colloquium at the end of each rotation. Each Ph.D. student will present orally at least once during the first year at the colloquium.

M.S. students will perform two (2) rotations during their first year. The Graduate Program Director will assist them in selecting research mentors for these rotations. The student and faculty member will design a project that can reasonably be completed in 9 weeks. The student's performance in the laboratory will serve as

the basis for the grade for the rotation course, HGEN 605, and will be graded as follows: Satisfactory [S], Unsatisfactory [U], Fail [F]. Each faculty member who has a student rotating in their laboratory must provide a written summary of their progress. The student will spend approximately 9 weeks in that lab at a **minimum** of 12 hours/week. If the student has decided to perform their thesis work after one (1) rotation, they can remain in the same lab for the second rotation. If necessary, a student who has not been able to identify a laboratory can perform a third rotation. All M.S. and Ph.D. students should meet with the rotation mentor prior to the start of each rotation to provide the mentor with a copy of their class and test schedules and to discuss expectations for laboratory duties and schedule during the rotation.

2.4 Departmental Seminar and Journal Club

Seminars and journal clubs provide invaluable training and experiences for graduate students. As such, all students are required to register for and attend the research seminar course (HGEN 690) and journal club class (HGEN 510 or HGEN 610) each week during the fall and spring semesters. Beginning with the second year of graduate school, all students will be required to present a minimum of one (1) research seminar per year on the progress of their independent research. This research seminar will be given as part of the HGEN 690 course. All students will present a final seminar on their research immediately prior to their dissertation/thesis defense.

Students are expected to attend seminars of any departmental student who is giving their defense seminar. Defense seminars represent the culmination and celebration of a substantial amount of work.

Attending not only shows support for fellow students but also provides insight into the scope of work deemed sufficient for graduation. Students who are not in class during a defense are expected to make time to attend and support their colleagues.

In addition to the Student Research Seminars (HGEN 690), departments in the School of Medicine (SOM) as well as other School/Colleges at VCU, host a number of seminars each semester that are given by outside speakers. Students are encouraged to attend seminars that are directly relevant to their scientific field and research interests. Time is generally set aside in the speaker's schedule to meet with them and graduate students are encouraged to take advantage of these opportunities.

Knowledge of the scientific literature in fields related to human and molecular genetics is an important requirement for students enrolled in both the Ph.D. and M.S. programs. For this reason, all students must register for one (1) current literature/journal course each semester (HGEN 510 or HGEN 610). Students in their first year will take HGEN 510 during their first semester and then, each semester thereafter, the HGEN 610 course starting in the spring semester. Beginning during their second year, students will be required to present a minimum of one (1) journal club presentation per year as part of the HGEN 610 course. Students are encouraged to attend clinical conference (Wednesdays at 11:00 am) in order to obtain insight into the potential relationship between research being carried out in human and molecular genetics and its translation to the bedside via clinical genetics.

2.5 Advanced Study

The curriculum has been structured in such a way that course work taken during the first year of study provides the foundation in human genetics necessary to equip the student for more advanced classes that have a greater research focus. Such classes in the student's field of interest are offered within and outside the department. Students are encouraged to take course work in scientific writing and grantsmanship even though advanced courses in human and molecular genetics include intensive scientific writing as course requirements. The student shall work with their advisor and members of their Graduate Advisory Committee in planning a schedule that will best benefit the student.

3. ADVISOR AND GRADUATE ADVISORY COMMITTEE

3.1 Advisor

A student's advisor assumes the very important responsibility of acting as that student's mentor. The Graduate Program Director(s) will serve as a temporary advisor for all entering students and will serve in this capacity until the student identifies a permanent advisor. The selection of a student's dissertation/thesis advisor is based upon a successful match between the student and a graduate faculty member after the completion of the laboratory rotations. All graduate students should discuss the student/advisor [Compact](#) with prospective mentors as part of evaluating if the mentor-mentee styles are well-aligned.

The advisor should have research projects underway in the student's chosen area of research. In order for a faculty member to be eligible to become a student's dissertation advisor, they must have their chair's permission and be able to document that they have the extramural funding or start-up funds necessary to support the student (tuition, fees, and stipend) starting in Year 3. Faculty members can become a M.S. student's thesis advisor if they can document that they have the extramural funding necessary to cover all costs associated with that student's research. Typically, primary advisors are in the SOM, but students may select primary advisors outside of the SOM with the approval of the Graduate Program Director and SOM Dean's Office.

3.2 Graduate Advisory Committees

[Graduate Advisory Committees](#) provide advice and guidance to students to facilitate completion of their thesis or dissertation projects and ensure that students have designed and completed a research project suitable for a thesis or dissertation. They also ensure that students exhibit mastery of their subject area and produce a suitable thesis or dissertation document. Students must select a thesis/dissertation advisor by the end of their second rotation for M.S. students and by the end of the spring semester of their first year of study for Ph.D. students. All students must contact the Graduate Program Director when an advisor has been chosen. *A student's Graduate Advisory Committee must be selected by the end of the fall semester of the second year of study.*

The Committee should be chosen by the student with the assistance of their advisor and approved by the Graduate Program Director and the SOM Dean's Office. Ideal committees include faculty with diverse perspectives, experiences, and expertise who can offer advice not only on the student's research project(s) but also on career development. For Ph.D. students, the committee is composed of at least 5 members, one of which is the student's advisor. All faculty members serving on student committees must be approved by the Graduate School for VCU graduate faculty status. At least one member must hold a primary or affiliate appointment in the Department of Human and Molecular Genetics at a level of Assistant Professor or greater. In addition, at least two faculty members of the Graduate Advisory Committee should be from a discipline other than that of the advisor. For M.S. students, the committee is composed of at least 3 members, one of which is the student's advisor. All members of the committee must have VCU graduate faculty status. One member must hold a primary or affiliate appointment in the Department of Human and Molecular Genetics at a level of Assistant Professor or greater. Also, at least one other committee member must be from a discipline other than that of the advisor.

Ph.D. and M.S. students should submit the names of their Graduate Advisory Committee members into GradTrak, which will electronically start the approval process. The advisor typically chairs the graduate advisory committee during meetings including exams. Alternatively, an individual other than the advisor can be appointed as committee chair by the Associate Dean for Graduate Education (ADGE) by their discretion or upon request by any of the following: the student, any Graduate Advisory Committee member including the

advisor, or the graduate program director. The appointment of a specific individual as chair can be challenged with cause by any of the above. The ADGE will consider the challenge and proceed with either the original or an alternate individual as chair.

Ph.D. students must have the composition of their approved Graduate Advisory Committee, their coursework plan, and the tentative title of their dissertation filed with the Dean's office **by the end of the fall semester of their second year of study**. Ph.D. students are also required to have at least one committee meeting prior to the end of the spring semester of their second year and to meet with their committee at least once each year thereafter. M.S. students are encouraged to have their initial Graduate Advisory Committee meeting in the fall semester of their second year, but this meeting should occur no later than the spring semester of year two (2).

4. BI-ANNUAL EVALUATION

Graduate faculty with primary or affiliate appointments in the degree programs' sponsoring department will evaluate student performance twice each year. During the first two (2) semesters, these evaluations will be based upon performance in course work, as well as input from the student's laboratory rotation director, the faculty running the current literature/journal club courses, and the Graduate Program Director. Performance in course work is closely monitored during the first semester in order to identify students who may need tutoring or help with study habits. After a Ph.D. student has identified an advisor, the evaluation will be based primarily on the student's progress as determined by the student's advisor and on their participation in university-wide activities that highlight student research. Evaluation of progress toward completion of an M.S. degree will be determined primarily by the student's advisor after the successful completion of the student's first year of study in the M.S. program.

Faculty advisors to students in our graduate program are required to complete written reports twice a year on the progress of each of their students for the purpose of student evaluation. The purpose of these evaluations is to provide feedback at regular intervals to students regarding their progress and to develop plans to ensure a timely completion of the requirements of the Ph.D. or M.S. programs. The advisor will prepare a report on their advisee's performance and rate the student in the areas of oral communication, written communication, study design, problem solving skills and integrated knowledge of human and molecular genetics following the scoring rubric adopted by the SOM prior to meeting with them to discuss their progress. At the end of this meeting, both the advisor and advisee will sign the report. **These reports are due no later than October 15 and April 15 of each year.** The final report and the rating sheet will be returned to the Graduate Program Director's office where they will be logged in and then filed with the student's records maintained by the department. The Graduate Program Director will notify the department Chair of all cases where these reports have not been returned to that office in a timely manner.

5. INDIVIDUAL DEVELOPMENT PLAN (IDP)

Individual Development Plans (IDPs) help to determine long range career objectives and professional development needs. They also facilitate communication between a student and their advisor on this subject. These plans are **mandatory** for Ph.D. students and recommended for M.S. students. Students should begin their IDPs starting the fall semester of their second year after they have identified an advisor. The final IDPs are due in the spring along with their evaluation and should be discussed with their advisors during their evaluation discussion. After the students develop their initial IDPs, the plan must be reviewed each successive year. The student's IDP plan must also be discussed at their annual meeting with their committee.

6. PH.D. CANDIDACY EXAM

The Ph.D. candidacy examination consists of two parts: a written NIH F31-style application and an oral examination administered by the student's Graduate Committee. The advisor typically chairs the Graduate Advisory Committee during the oral exam; alternatively, the ADGE may appoint a dean's representative (DR) to chair the Committee for the exam upon request by the following: the student, any Graduate Advisory Committee member (including the advisor), the Graduate Program Director, or at the discretion of the ADGE. The appointment of a specific individual as DR may be challenged with cause by any of the above. The ADGE will consider the challenge and proceed with either the original or an alternate as DR. The DR will be from outside the original Graduate Advisory Committee, but will participate as a voting member of the Committee for purposes of the exam. These examinations meet the requirements of the Graduate School for admission to Ph.D. candidacy. The Human Genetics Ph.D. program follows the guidelines for the [candidacy exams](#) as set forth by the SOM Graduate Program Committee.

6.1 Comprehensive Exam

Students must orally defend a written research proposal by the end of the fall semester of their third year of study. **If the student has not scheduled their exam by that time, the student and their advisor must send a written petition to the Curriculum Committee to extend the deadline.** The committee will decide in a timely manner whether the extension will be granted. The Office of Graduate Education in the SOM must be notified a minimum of ten working days prior to the examination date.

A student, in consultation with their advisor, is responsible for generating a draft of their dissertation proposal. The advisor is responsible for determining that the draft is complete and suitable for review by the Graduate Advisory Committee. A student must provide their Committee with the draft at least 10 working days prior to the defense. Within five (5) working days of receipt, the Graduate Advisory Committee should review the draft and, if it is insufficient (e.g., incomplete), notify the student that the examination should not proceed. The Committee cannot cancel the exam after the five (5) working day window expires. The student is also required to notify the Graduate Program Director and the Dean's office (through GradTrak) as soon as the oral examination is scheduled.

6.2 Written Component

The written research proposal will form the student's anticipated dissertation project. The overall research project proposed by the student should be developed in conjunction with the student's advisor through the course of normal interactions in the laboratory training environment leading up to the time when the student begins preparing the proposal, including any suggestions made by the student's committee after the first committee meeting. **IT IS ESSENTIAL, HOWEVER, THAT THE WRITTEN PROPOSAL IS THE WORK OF THE STUDENT.** The specific hypotheses to be tested, the methodologies that will be used to address these hypotheses, the anticipated results, and interpretation must be generated and described by the student with no explicit guidance from the advisor. The advisor is allowed to read the proposal and give general comments on sections they think need improvement. As examples, comments such as "the background section needs more depth", or "the research strategy is missing pitfalls or alternative methods" would be appropriate advice from the advisor. **Students are strictly prohibited from "lifting" sections directly from their advisor's grant applications.** If, however, the student has submitted a fellowship proposal prior to their oral candidacy exam and the advisor aids the student in writing the funding proposal or edits the proposal, a written statement that clearly delineates the contribution of the student, as well as the contribution of the advisor, must accompany the proposal when it is submitted to the committee, or the student can turn into the committee the draft that they themselves wrote prior to getting help from their advisor. Grantsmanship is an

incredibly valuable component of graduate training. All eligible students are highly encouraged to submit at least one application for an individual predoctoral fellowship to an extramural funding agency if eligible.

Students are not permitted to use any form of generative AI to assist in writing, revising, or organizing their written proposal.

Each member of the student's Graduate Advisory Committee must evaluate the student's proposal with regard to the identification of appropriate background/existing information, the presentation, assessment and analysis of supporting evidence, the development of a clear and effective research plan and the use of appropriate grammar, vocabulary and style.

6.3 Proposal Guidelines

The proposal should conform to NIH F31-style guidelines. The Title Page, Abstract, and References sections will not be counted towards the total page number. The proposal should be tailored in the following format:

A. Project Summary/Abstract

The project summary is a succinct and accurate description of the proposed work and should be able to stand on its own (separate from the application). This section should be informative to other persons working in the same or related fields and understandable to a scientifically literate reader. Avoid both descriptions of past accomplishments and the use of the first person. Please be concise. State the application's broad, long-term objectives and specific aims, referring to the health relatedness of the project. Describe the research design and methods for achieving the stated goals. Be sure that the project summary reflects the key focus of the proposed project. Limit to 30 lines.

B. Specific Aims

State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved. List succinctly the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop new technology. Specific Aims are limited to one page.

C. Research Strategy

Organize the Research Strategy in the specified order and using the instructions provided below. Start each section with the appropriate section heading: Significance, Innovation, Approach. Cite publications supporting the Research Strategy section and provide the full reference in the Bibliography and References Cited section. The Research Strategy is limited to 6 pages.

1. Significance

- Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
- Describe the scientific premise for the proposed project, including considerations of the strengths and weaknesses of published research or preliminary data crucial to the support of the application.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

2. Innovation

- Explain how the application challenges and seeks to shift current research or clinical practice paradigms.

- Describe any novel theoretical concepts, approaches or methodologies, instrumentation or interventions to be developed or used, and any advantage over existing methodologies, instrumentation or interventions.
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation or interventions.

3. Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Describe the study design and methods proposed and how they will achieve robust and unbiased results. Include how the data will be collected, analyzed, and interpreted as well as any resource sharing plans as appropriate.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high-risk aspects of the proposed work.
- Explain how relevant biological variables, such as sex, are factored into research designs and analyses for studies in vertebrate animals and humans. For example, strong justification from the scientific literature, preliminary data, or other relevant considerations, must be provided for applications proposing to study only one sex.

4. Preliminary Studies

- Include information on Preliminary Studies if applicable. Discuss the preliminary studies, data, and/or experience pertinent to the proposal.

D. References

- References will not be counted towards the total page limitation of the proposal. References should be added to the document using a citation manager (e.g., Zotero, Mendeley).

E. Format Guidelines

Font

- Use an Arial, Garamond, Georgia, Helvetica, Palatino Linotype, Times New Roman, or Verdana font with a size of 11 points or larger. Smaller text in figures, graphs, diagrams and charts is acceptable as long as it is legible when the page is viewed at 100%.

Page Margins

- Use *standard size (8 1/2" x 11")* page size
- Use one-half inch margins (top, bottom, left, and right) for all pages

Title Page

- A title page that includes the advisor's name should be included at the beginning of the document

6.4 Oral Component

The oral component of the exam will be administered by the student's Graduate Advisory Committee. Students will be expected to present a brief summary (10-15 minutes) of their proposal that covers the major background, preliminary data, and study design portions of the proposed plan of work. Questions administered by the committee should encompass two aspects, questions directly pertaining to the proposal and questions of general scientific knowledge. All members of the examining committee will evaluate the student with regard

to the student's ability to: (i) clearly articulate the significance, objectives, and goals of the proposed research, (ii) discuss background and relate existing knowledge to the work they propose to do, (iii) present, assess and analyze supporting evidence, develop, communicate and explain the project plan, (iv) display significant knowledge of the subject matter, (v) address questions related to general knowledge and their research field appropriately, and (vi) synthesize information creatively.

At the conclusion of questioning, the chair will excuse the student and request a motion and a second of PASS or FAIL for the exam from the other Graduate Advisory Committee members. The chair calls for and participates in discussion from all Graduate Advisory Committee members. At the conclusion of the discussion, the chair calls for a vote on the motion by show of hands. All Graduate Advisory Committee members including the chair must vote either PASS or FAIL on the student's performance. The Graduate Advisory Committee members including the chair are the only persons allowed to vote. Two or more negative votes constitutes failure of the exam.

Upon successfully passing the comprehensive oral exam, the student is admitted to Ph.D. candidacy. If the student does not pass the oral component, the Graduate Program Director can petition the faculty to approve the student to retake the exam. If this is the case, the Graduate Program Director must write a letter to the SOM Graduate Committee to receive approval from this body to allow the student to retake the exam. If the student does not pass a second time, the student cannot advance to candidacy for the Ph.D. and is grounds for dismissal from the program.

7. PH.D. DISSERTATION

After being admitted to candidacy, the student is expected to develop and conduct their dissertation research project. Upon approval from their Graduate Advisory Committee, all Ph.D. students will then write a dissertation describing their research findings. After the dissertation has been reviewed and approved by the advisor, the student will present a seminar that is open to the public in which they describe their work, followed by a private defense where they will orally defend their dissertation before their Graduate Advisory Committee members. The date, time and place of the exam along with the candidate's name, department and dissertation title must be announced at least 10 business days in advance to the Graduate Program Director as well as the Dean's office through GradTrak. The Human Genetics Ph.D. program follows the guidelines set forth by the SOM Graduate Programs Committee with regard to dissertation defenses and final examinations. More information can be found [here](#). All students should refer to the [SOM, Graduate School](#), and [Bulletin](#) websites for important information regarding the requirements and deadlines for the preparation and submission of the dissertation and for graduation as set by the University and the SOM.

Please note that it is the student's responsibility to ensure that all requirements for degree completion are met and the appropriate signatures obtained.

8. M.S. THESIS

Upon completing their research work and with approval of their Graduate Advisory Committee, M.S. students must report their results in a thesis. After the thesis has been reviewed and approved by the advisor, the student will then present a seminar that is open to the public in which they describe their work, followed by a private defense where they will orally defend their dissertation before their Graduate Advisory Committee members. The date, time and place of the exam along with the candidate's name, department and dissertation title must be announced at least 10 business days in advance to the Graduate Program Director as well as the Dean's office through GradTrak. The Human Genetics in M.S. program follows the guidelines set forth by the SOM Graduate Programs Committee with regard to the thesis defense and final examination. More information can be found [here](#). All students should refer to the [SOM, Graduate School](#), and [Bulletin](#) websites for important

information regarding the requirements and deadlines for the preparation and submission of the dissertation and for graduation as set by the University and the SOM.

Please note that it is the student's responsibility to ensure that all requirements for degree completion are met and the appropriate signatures obtained.

9. CONFLICT RESOLUTION

The VCU SOM and the Department of Human and Molecular Genetics strive to foster an equitable, inclusive environment that is free from bias, discrimination and harassment, and a healthy environment in which our students can safely learn and thrive. The SOM holds students, other trainees and faculty to high standards, and expects professionalism and mutual respect among all learners and educators. When issues arise that deviate from these values, students are asked to report them through any of the options described below. Please note that each office handles the reports they receive with privacy and discretion, and several offices offer the option for anonymous reporting. If students are unsure about who they should contact, they can connect with their Graduate Program Director or the ADGE for guidance.

IN THE SOM

- Connect with your advisor (self-arranged)
- Email your [SOM Graduate Program Director](#)
- Connect with the SOM Office of Graduate Education
 - Click here to [Anonymously report a concern](#)
 - Email [Dr. Lichtman](#) (follows this [process](#))
- Email your advisor's [SOM Department Chair](#)
- Email [Dr. Donnenberg](#), Senior Associate Dean for Research and Research Training
- Email [Dr. Harris](#), Senior Associate Dean for Diversity, Equity and Inclusion
- Email [Dr. Saavedra](#), Dean

ON THE MCV CAMPUS

- Email [Mr. Roy Roach](#) in the [Division for Student Engagement and Impact](#)

AT VCU

- View [Dean of Students Office](#)
- View [Integrity and Compliance Office](#)
- View [Equity and Access Services](#)
- View [Title IX](#)

VCU [prohibits retaliation](#) against any individual who brings forth a good faith concern or asks a clarifying question, regardless of the channel or mechanism used. Additionally, VCU [expects ethical conduct](#) of all members of the university community. If you believe you have experienced retaliation for raising concerns, please notify the Integrity and Compliance Office through the [VCU Helpline](#).

10. ADDITIONAL STUDENT ACTIVITIES

10.1 Community Service

In addition to participating in research and coursework, students in the department also participate in a number of community and educational programs. Students are encouraged to present educational talks to parents' groups, teachers, and area high schools about their research, genetic disorders, their modes of inheritance, detection and treatment, and about the counseling and diagnostic services available at VCU Health.

10.2 Teaching

Graduate students in the department may assist faculty with teaching responsibilities in a number of ways including: tutoring their peers and serving as teaching assistants in undergraduate or first-year graduate human genetics courses. Some of the teaching opportunities available to students include:

COURSE NUMBER

HGEN501/BIOL530

HGEN502

HGEN603

HGEN611

HGEN651/HGEN652

Opportunities in the Department of Biology

10.3 Participation in Activities Showcasing Student Research

The University and SOM hold several activities that showcase student research, including those sponsored by the Graduate School, the Massey Comprehensive Cancer Center and the Institute for Women's Health. All M.S. and Ph.D. students should participate in these activities when appropriate by submitting abstracts describing their research. Participation is strongly encouraged beginning in their second year of study. Students and their advisors should also look for opportunities to present their research at national and international meetings.

10.4 Student Participation in Administrative Activities

The department faculty hold meetings to discuss a variety of departmental business. Each year, students will nominate and vote on 2-3 representatives who will attend these meetings and present the students' views or bring up concerns. The representatives serve as the students' voice to the faculty. Student meetings are also held to discuss student business and to review the topics covered at the faculty meeting. Each student is encouraged to attend student meetings and to talk with faculty members when assistance is needed.

11. EXIT INTERVIEW

Upon leaving the department, students should schedule an exit interview with the Graduate Program Director. This one-on-one session provides students an opportunity to discuss their experiences in the department and at VCU with the Director to determine what policies were successful, as well as to identify areas where improvement can be made.