PH.D. PROGRAMS

Advanced graduate study leading to a Doctor of Philosophy degree is offered in the departments of Anatomy and Neurobiology, Biochemistry and Molecular Biology, Biostatistics, Family Medicine and Population Health (Epidemiology Division), Healthcare Policy and Research, Human and Molecular Genetics, Radiation Oncology (medical physics), Microbiology and Immunology, Pharmacology and Toxicology, Physiology and Biophysics, and Social and Behavioral Health, as well as an interdisciplinary neuroscience degree and molecular biology and genetics curricula in a number of disciplines.

General requirements for graduate degrees

1. All full-time graduate students are expected to register for a minimum of 15 credit hours for the fall and spring semesters and three credit hours for the summer session. This requirement includes research. As an example, when students are registered for 10 credits in formal courses, they are expected to undertake five credits of research under the direction of their adviser or any approved faculty member. Research courses shall be graded as S (satisfactory), U (unsatisfactory) or F (fail). Registration for one credit hour is permitted only with prior permission.

2. Students enrolled in all Master of Science and doctoral programs are required to receive training in the responsible conduct of research in accord with federal guidelines.

3. Students are required to remain in good academic standing through the course of their degree program. Unsatisfactory student performance includes:
   a. The assignment of a grade of U, D or F in any course
   b. Failure to maintain a cumulative GPA of 3.0 or greater
   c. Failure to pass the written or oral comprehensive examination
   d. Failure to pass the final examination

   A student whose performance is unsatisfactory must obtain the approval of the MCV Campus graduate committee to gain permission for continuing in the graduate program. The committee elicits the recommendation of the department/program (as represented by the director of graduate studies of the appropriate program) and, as appropriate, the student's adviser in making a determination. Unsatisfactory performance also constitutes grounds for the termination of financial assistance to the student.

4. Students may not take the comprehensive examination for the Ph.D. degree if their overall GPA is less than 3.0 or if the GPA for courses within the major department is below 3.0. Students may not take the final oral examination for the M.S. or Ph.D. degree if their overall GPA is below 3.0. The examining body for the administration of the comprehensive examinations and the final examination is the student advisory committee. For the oral comprehensive examination for Ph.D. students and the final examinations for M.S. students, the body is supplemented by the addition of a representative of the MCV Campus graduate committee who chairs the examining body. The representative must be a member of the graduate faculty and is appointed by the chair of the MCV Campus graduate committee. The representative holds the responsibility for compliance with protocols appropriate to the examination, including the equitable treatment of the candidate.

5. Copies of the thesis/dissertation consistent with university standards shall be provided to the members of the student's advisory committee three weeks or more before the date of the defense of the thesis/dissertation. Following acceptance of the thesis/dissertation defense schedule by the committee, the student must submit a copy of the thesis/dissertation and a request for scheduling of the final examination to the chair of the MCV Campus graduate committee a minimum of 10 working days in advance of the examination date. After passing the final examination, it shall be the responsibility of the candidate to present to the dean's office the approved original thesis/dissertation plus the minimum required number of copies (three for M.S., four for Ph.D.) in final form suitable for binding. In consultation with the office staff, the candidate shall be responsible for the binding and the processing of the thesis through VCU Libraries and for the payment of all charges for these services.

6. A degree is granted only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the copies of the thesis for binding.

7. VCU currently requires registration for a defined credit hour level during both the didactic and research phases of advanced degree training. For programs requiring the preparation of a thesis or dissertation, there is therefore no obligatory linkage between the accumulation of credit hours and an expectation that a degree be awarded.

As a guide to monitoring the timely completion of the degree within the present enrollment framework, the accumulation of 80 credit hours for a M.S. degree and 180 credit hours for a Ph.D. degree can be taken as a reasonable measure. These credit hour totals refer to degree programs requiring the preparation of a thesis or dissertation. Unless explicitly stated, the figures cited above apply to Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) programs offered by the School of Medicine.

Change in academic program

A student in good standing who is nearing the completion of their degree program may wish to be considered for admission to a more advanced degree administered by the School of Medicine. On more rare occasions, a student may wish to leave (withdraw) from the program in which he/she is currently enrolled and join another program at the same academic level in the School of Medicine.

In all cases the student seeking the change shall submit a hard-copy version of the VCU Application for Graduate School to the Office of Graduate Education in the School of Medicine. The one-page application must be accompanied by a letter written by the student providing the rationale for the change and the program into which the student is seeking admission. The Office of Graduate Education will review the application and the record of the student and then alert the department to the interest of the student if deemed appropriate. Students who are not making satisfactory academic progress (i.e. a student who is not in good academic standing) in a given program would not be considered candidates for a program change. In the absence of prior approval from the Office of the Dean, neither an “application” by a student directly to a program nor the “acceptance” of a student by a program will be valid. Neither students nor programs may initiate admission to a program in the School of Medicine in the absence of the approval by the Office of Graduate Education acting in consultation with the MCV Campus graduate committee.

The above applies to all changes in program (e.g. certificate level to master’s, master’s to Ph.D., program change at the same degree level).
The student adviser and advisory committee

Students receive guidance and counsel from the director of graduate programs for the appropriate program prior to appointment of the permanent adviser. The permanent adviser holds the primary responsibility for monitoring the development of the student in the program and providing the appropriate guidance and counsel essential to the scholarly development of the student.

An advisory committee, appointed shortly after the permanent adviser is appointed, serves as both an examining and consultative body, functioning to assist the development of the student. Committee members hold a special responsibility as a source of counsel for each student.

To fulfill these objectives, committee membership must avoid the existence or appearance of conflict of interest.

A conflict of interest is a set of circumstances that increases a risk that the judgment or actions regarding a primary interest will be or may appear to be unduly influenced by a secondary interest. In the case of service as a member of a student advisory committee, the primary interest is the independent evaluation of the performance of the student, the counsel provided to the student and adviser in the planning and implementation of the scholarly project, and the counsel provided to student and adviser to ensure satisfactory academic progress and an appropriate relationship between adviser and student. Secondary interests include personal or professional relationships with the adviser which could compromise or be seen to compromise the fulfillment of the primary interest of the individual as a member of the student advisory committee.

An individual having a formal personal relationship with the adviser can provide the appearance of a conflict of interest compromising the wholly independent participation of the individual as a committee member. Similarly, the presence of multiple members of a laboratory “team,” accentuated in cases where there is employer-employee relationship of the “team” members, can raise concerns with respect to a potential conflict of interest. In addition, a committee composed largely of members of a single research operation replicates the counsel already available in group meetings and is not fully consistent with the purpose and objectives of committee appointments.

The advisory committee architecture exists for multiple reasons. The guidelines for committee composition are intended to provide a balance between expertise in a disciplinary area coupled with an interdisciplinary perspective to enrich the contributions of the committee to the evolution of the scholarly work to the benefit of student and adviser. The committee provides the framework for the “inter-rater reliability” of the evaluation of the student performance and development in achieving the degree of scholarly independence consistent with the awarding of the degree. The independence of the “raters” in establishing a collective judgment with respect to student performance is central to the quality of the system and the perception of the evaluation process as equitable and not capricious.

For the above reasons the faculty of the School of Medicine shall avoid the proposed appointment to a student advisory committee individuals who have a personal relationship with the adviser or are members of the laboratory/research group of the adviser. The concerns articulated above also apply to the relationship of a student to an adviser. A familial or personal relationship between the two holds the potential for the perception of or actual conflict of interest with respect to the responsibility of the adviser to evaluate the performance of the student. If such a relationship exists, appointment as an adviser shall be avoided.

1. Each student shall have an adviser and an advisory committee.
2. Appointment of the adviser:
   a. The initial adviser will be the director of the graduate program or his/her designee prior to appointment of the permanent adviser.
   b. A permanent adviser shall be appointed from the graduate faculty by the chair of the MCV Campus graduate committee upon recommendation of the chair of the student’s major department. Appointment should be made no later than the beginning of the fall semester following matriculation. A change in the permanent adviser may be made by the chair of the MCV Campus graduate committee upon recommendation of the chair of the major department.
3. Duties of the adviser:
   a. The adviser shall, with the student’s advisory committee, have responsibility for guiding the student’s academic program.
   b. The adviser shall develop a plan for the student’s didactic program with the student.
   c. The adviser shall, on the basis of the proposed didactic and scholarly program for the student, identify members of the faculty to comprise the student’s advisory committee and elicit their agreement to serve, the adviser serving as the chair of the committee.
   d. The adviser shall supervise the student’s research work and dissertation preparation and be one of the examiners of the dissertation (Ph.D.).
   e. At the close of the spring semester, the adviser shall submit to the program director or the chair of the MCV Campus graduate committee a report covering the progress of the student. Copies of the report should be provided to the student and the membership of the student advisory committee by the adviser.
4. The student’s advisory committee:
   a. The student’s advisory committee shall be appointed no later than the end of the fall semester of the second year after matriculation by the chair of the MCV Campus graduate committee, upon recommendation of the student’s adviser, review by the graduate program director and recommendation of the chair of the department of the permanent adviser. Appointment of the student advisory committee must be done within three months of the appointment of the permanent adviser and prior to the administration of comprehensive (or final) examinations. The composition of the advisory committee shall be such that significant areas of the student’s scholarly program are represented in the expertise of the faculty members.
      i. The committee for the Ph.D. candidate shall consist of a minimum of five members as follows: the student’s adviser; two other members of the graduate faculty of the department/program in which the student is enrolled; and at least two other members of the graduate faculty from departments other than the one in which the student is enrolled (where feasible, from two different departments).
      ii. A faculty member who is not a member of the graduate faculty may be appointed to a student advisory committee if approved by the MCV Campus graduate committee. Appointment is made by the dean of the Graduate School.
      iii. The student adviser is identified as the chair of the student advisory committee.
   b. Duties of the student’s advisory committee:
i. The advisory committee functions as an advisory body to ensure that timely progress toward degree completion is being achieved, as an examining body participating as appropriate for the intended degree in written qualifying examinations and conducting the oral qualifying examination and final examination, and as a consultative body to provide scholarly counsel.

ii. The student’s advisory committee shall work with the student’s adviser in guiding the student’s graduate program and shall meet at least annually. It is strongly recommended that the advisory committee meet with the student prior to administration of the comprehensive examination(s) by the committee.

iii. The student’s advisory committee shall recommend and approve a degree program (including foreign language if applicable) for the student as soon as it is practical. The proposed program should be filed with the chair of the MCV Campus graduate committee no later than the third semester of study.

iv. The student’s advisory committee shall conduct the oral comprehensive and final examination.

Doctor of Philosophy
1. A minimum of 30 credit hours exclusive of research credits is generally required. In practice, a minimum of four years of study, including research, is necessary to complete all requirements.

2. For all Ph.D. programs, a period of residence of at least two consecutive semesters is required. In the context of Ph.D. training, “residence” refers to full-time enrollment, equivalent to enrollment of nine or more credit hours in a given academic term. The School of Medicine recommends that doctoral students maintain “residency” status for one academic year (fall and spring semesters), usually during the initial year of study. This recommendation is to ensure that the didactic component of training is not prolonged. Students should register in each academic term as a means of ensuring that timely progress toward degree completion is achieved. The specific requirements for residency will be detailed by the individual programs. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the Doctor of Philosophy degree.

Admission to candidacy
The development of the individual as an independent research scientist is a critical component of the Ph.D. degree. The potential for such development is assessed on the basis of both mastery of subject matter and research competency as judged in the context of written and oral examinations administered at the level of department or program. Students are admitted to candidacy by the dean on the basis of completing examinations as required and the recommendation of the faculty adviser, student advisory committee and graduate program director.

Individual development plan
In order to assist trainees and advisers in the efficient completion of degree training and considered identification of a strategy for career development once the degree has been awarded, all graduate students will be required to create an individual development plan. The IDP will have two components, both of which are critical to the achievement of a successful career outcome.

The first component will address the action plan for the research project over the next 12-month period. This should take a form analogous to the “Specific Aims” section of an NIH grant proposal, identifying key experimental objectives. In addition, objectives in professional development (e.g. attendance at a national meeting, delivery of a seminar) are also identified. The student adviser works with the student to develop this component of the IDP. The IDP is then used as a resource for consideration and comment by the student advisory committee in the annual meeting with the student.

The second component of the IDP will explore the long-term “career objectives” of the student. Career objectives must look beyond a period of postdoctoral training. The nature of this component of the plan will vary widely depending on the individual. For the individual who has identified a particular career position, the IDP might, for example, seek to gain a more complete understanding of the requirements of such a position or the identification of “soft” skills critical to success in the position. If undecided, the individual might explore the variety of career options for which the biomedical science degree can serve as a foundation. While the student’s research adviser can play a role in developing this component of the plan, students should be encouraged to identify a mentor who can provide critical, concrete and confidential counsel to the student.

The use of the career planning tool distributed by the American Association for the Advancement of Science as “myIDP” to both guide the creation of a plan and convert entries into a report format is strongly recommended. A copy of the IDP will be submitted to the graduate program director in June of each year. The plans will be forwarded to the School of Medicine Office of Graduate Education. A record of the receipt of the IDP is placed in the student file.

Progress to degree completion
The timely completion of advanced degrees is in the best interests of the student. In order to ensure that impediments to degree completion are addressed at an early stage the Office of Graduate Education in the School of Medicine houses a record of the meetings of the student advisory committee in GradTrak. On an annual basis, programs will provide to the Office of Graduate Education a record of the date(s) on which the student advisory committee has met, a copy of the minutes of the meeting and/or the memorandum provided to the student describing the progress made to degree completion, along with the expression of compliments, concerns and corrective action as appropriate. A copy of the IDP prepared by the student accompanies the report of the actions of the student advisory committee meeting.

While recognizing that the research enterprise is subject to unknowns including unanticipated problems in the successful conduct of experiments, the duration of training should not be unduly extended as a consequence. The adviser and student advisory committee have a responsibility to ensure that the scope of the research project is such that a doctoral degree can be completed in five to six years. The student advisory committee plays a central role to ensure that the treatment of the student is equitable and that the student displays appropriate effort, commitment and development.

Advisers have an obligation to ensure that in circumstances where student performance is not deemed to be satisfactory, the presence of the potential problem is communicated to the student advisory committee and the program director. The interests of the adviser and student are best served when the evaluation of the situation is made with multiple inputs. In cases where a problem does exist, communication of the substandard performance, along with a course and timeline for
remediation, should be formally communicated to the student as soon as possible. Documenting the existence of problem areas should not await the end of a semester or be delayed until a scheduled assessment is to take place.

If the student has not completed all degree requirements at the end of 15 semesters (inclusive of summer terms) of study, the adviser will provide specific information on the timeline for completion of the degree and submit to the student advisory committee and the graduate program director (with a copy forwarded to the Office of Graduate Education) for review and action if warranted.

**Comprehensive examinations**

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) generally focus(es) on the subject matter deemed critical as a foundation in the particular program. The written examination is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the candidate to integrate information and display an appropriate mastery of problem-solving capabilities.

1. To advance to candidacy, the student shall take written and oral examinations designed to determine the potential of the individual for development as an independent research scientist. Advancement to candidacy should preferably take place prior to initiating the third academic year in the program. The written examination is administered by the student’s department/program. In the event of failure of the written comprehensive examination, the student, with the approval of the MCV Campus graduate committee, may be permitted to repeat the written examination.

2. After passing the written examination(s), the student is eligible for the oral examination. The oral examination is conducted by the student’s advisory committee and is chaired by a graduate faculty member representing the MCV Campus graduate committee who serves as a voting member of the examining committee. The oral examination is to be administered no later than six months after passing the written examination. (Departments/programs may require a shorter interval.)

3. The oral examination is scheduled through the Office of Graduate Education. An announcement of the candidate’s name, department/program and the time and place of the examination shall be posted at least 10 working days in advance of the examination. If a written document prepared by the candidate is a component of the examination, the document shall be provided to the members of the examining committee at least 10 working days in advance of the examination. The oral comprehensive examination is open to all members of the faculty. Faculty members in attendance may ask questions of the candidate, but their questions shall not be presented until after the advisory committee has completed its questions. Faculty members other than those on the advisory committee shall not vote on the success or failure of the candidate. If a student fails the oral examination, the student may be re-examined with the approval of the MCV Campus graduate committee.

4. A favorable vote of the examining committee (all members of body being required to vote) with no more than one negative vote, is required to pass the examination. Members of the examining committee must vote on the performance as either pass or fail.

5. The oral examination must be completed successfully at least six months before submission of the dissertation.

**Dissertation research**

1. The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

2. The body of experimental work to be incorporated into the dissertation is subject to the approval of the membership of the student advisory committee. The advisory committee should, therefore, be formally consulted as the research project nears completion to ensure that there is agreement with respect to the material deemed necessary and sufficient for incorporation into the dissertation. Such consultation will normally occur in the form of a meeting of the advisory committee with the student. The faculty adviser has a responsibility to advise the student when the meeting of the advisory committee for this purpose should take place.

3. The dissertation is prepared in an acceptable form and style with the counsel of the faculty adviser. The faculty adviser determines when the dissertation document can serve as the basis for the final oral examination (or dissertation defense). With the approval of the faculty adviser, the final oral examination by the advisory committee is scheduled and the dissertation document is distributed to the advisory committee. Distribution of the dissertation document to the advisory committee will usually occur at least 10 working days in advance of the final oral examination. The Office of Graduate Education is informed of the scheduling of the final oral examination 10 working days in advance of the examination. The Office of Graduate Education will then post an announcement of the final oral examination to include the name and department of the candidate together with the title of the dissertation and the day, place and time of the final oral examination.

4. The final oral examination is conducted by the student advisory committee at a specified time and place, is chaired by the faculty adviser and is open to all members of the faculty. The subject matter of the examination is limited to the content of the candidate’s dissertation and related areas. A favorable vote of the advisory committee with no more than one negative vote shall be required to indicate that the candidate has passed the final oral examination. All advisory committee members must vote. The outcome of the final oral examination is reported to the Office of Graduate Education. If the examination is not passed, the student advisory committee must recommend a course of action for the student. The committee might, for example, recommend that a re-examination be scheduled, or that a major revision of the dissertation (including added data collection and/or analysis) be required prior to rescheduling of the examination, or that the student be terminated from the program or other action as deemed appropriate by the committee. A majority of the committee membership must concur in the recommended course of action. The recommendation must be communicated in writing to the appropriate graduate program director for approval within five working days of the examination. The program, acting through the graduate program director, shall accept the recommendation of the committee or determine an alternative within an additional five working days. The course of action approved by the program will be communicated in writing to the student by the graduate program director. The graduate program director shall inform the Office of Graduate Education of the School of Medicine in writing as to the action taken.

If a re-examination is the recommended course of action, a representative of the MCV Campus graduate committee will be appointed to serve as the chair of the examining committee.
5. The student advisory committee approves the dissertation document as acceptable following the final oral examination. Approval of the dissertation as acceptable is indicated by the signature of all members of the advisory committee on the signature page of the dissertation. Approval of the dissertation by the advisory committee must be unanimous.

**Termination of enrollment**

The university reserves the right to terminate the enrollment of any student for unlawful, disorderly or immoral conduct or for persistent failure to fulfill the purposes for which he or she was matriculated.

A student enrolled in a graduate program under the supervision of the MCV Campus graduate committee may be dismissed from the school in which he is enrolled for failure to meet academic requirements prescribed by his school or failure to exhibit the attitudes and skills deemed necessary to function within his chosen scientific discipline.

Any action by a graduate student in a program under the supervision of the MCV Campus graduate committee considered to be unprofessional conduct shall constitute cause for disciplinary action.

Unprofessional conduct includes, but is not limited to:

1. Fraud or deceit in gaining admission to the university, i.e., false or obviously misleading representations on the admission application
2. An act that violates the established legal standards regarding conduct of one person toward society (i.e., stealing, lying, cheating and slander)
3. Conviction of a felony involving moral turpitude
4. Plagiarism or other scientific misconduct