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# WVU SCHOOL OF MEDICINE MD/PHD PROGRAM HANDBOOK

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**NOTE:** This handbook has material specific to aspects of the MD/PhD program that are distinct from MD or PhD program handbooks and policies. During the medical training years (MS1-MS2 and MS3-MS4), students will follow the guidelines provided by the School of Medicine MD degree program. During the PhD years (PhD1-PhD3, and PhD4, if necessary), students will follow the guidelines for their specific PhD program. However, the timing of some requirements are different between the MD/PhD and PhD programs; these differences are elaborated here. Students should also be aware that the WVU Graduate Catalog contains policies that apply to all graduate students regardless of program. This handbook may be amended after the student has entered the program. Students and faculty will be informed when an amendment has occurred.

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## I. Introduction

This handbook was developed by the Health Science Center Office of Research and Graduate Education and the Director of the MD/PhD Program. It outlines the activities, requirements, and standards for students in the MD/PhD dual degree program at the WVU Health Sciences Center.

This handbook supplements information in the MD degree and specific PhD program handbooks and governs the student's activities when these activities need to differ from the stand-alone MD or PhD programs. If this information needs to be amended, students and faculty will be informed in writing of the change and both will be governed by the new information. The information in this handbook also supplements the information that can be found in the WVU Graduate Catalog. This catalog can be found online at: <http://catalog.wvu.edu/graduate/>. Students and faculty are responsible for adhering to the policies in both the graduate catalog and this handbook. The graduate catalog contains allowances for programs to have more specific or stringent standards. In those cases, this Handbook supersedes the Graduate Catalog. Once the student transitions into his/her dissertation laboratory and joins a degree granting PhD program in the Biomedical, Clinical and Translational, or Public Health Sciences, a program-specific handbook will be provided that will supplement this handbook with specific information related to those particular programs.

## II. MD/PhD Dual Degree Program

The MD/PhD Program is affiliated with the School of Medicine at the West Virginia University Robert C. Byrd Health Sciences Center. The Program is designed to prepare students for a career as a physician-scientist who combines the practice and teaching of clinical medicine with investigation of mechanisms of health and disease. The PhD portion trains students in the research skills and knowledge needed to complete an original research project at the level of complexity needed to complete a dissertation, and to publish these original research findings in peer-reviewed journals. Original research is defined as testing hypotheses, answering questions, and obtaining data that make novel and important contributions to knowledge in the broad field of biomedical sciences.

MD/PhD students spend four years in the MD degree curriculum, the first two years (MS1&2) taking the Foundational Science medical curriculum and the last two years (MS3&4) in clinical clerkships. The PhD portion of training encompasses the years in-between taking approximately three-to-four years (PhD1-4). In summers before MS1&2, students conduct one to two research rotations with the objectives of selecting a faculty mentor and a PhD degree-granting program; including but not limited to the seven component programs of the Biomedical Sciences, the Clinical and Translational Science program, or the PhD program in the Public Health Sciences.

### III. Administration

A. Program Director            Albert S. Berrebi, PhD  
 Professor of Neuroscience  
 Assistant Vice President for HSC Research  
 Email: aberrebi@hsc.wvu.edu

#### B. Office of Research & Graduate Education

In addition to the program director, individuals listed below from the HSC Office of Research & Graduate Education will interact with MD/PhD students on most programmatic issues. Please also visit our website: <https://www.hsc.wvu.edu/resoff/>

Laura F. Gibson, PhD	Senior Associate VP for Research and Graduate Education	Ensures a research environment supportive of the scientific endeavors at the Health Sciences Center.	lgibson@hsc.wvu.edu
Lisa M. Salati, PhD	Assistant VP for Graduate Education	Provides programmatic guidance, support in training, and ensures programs are aligned to WVU policy.	lsalati@hsc.wvu.edu
Joseph Andria	Program Coordinator	Handles all forms documenting progress through the program, and certifies students for graduation. Mr. Andria is available to handle all questions related to graduate education.	jandria@hsc.wvu.edu
Connor Ferguson	Admissions Coordinator	Provides support with admissions, student interview visits, and questions related to graduate education.	clferguson@hsc.wvu.edu

*NOTE: The University and our Office will communicate with students only via WVU MIX email addresses. We will not use other email addresses. The MIX account must be activated. If the student does not plan on exclusively using his/her MIX email account then the email must be configured to forward to their preferred account. Periodic checking of the MIX account will not suffice and students will be accountable for any missed communications. MIX email addresses do not expire. It is recommended that students continue to keep this account active after graduation for receipt of information related to their status as alumni.*

## IV. Admissions

All students interested in the MD/PhD program complete the online AMCAS application for admission to the MD degree program and additionally select consideration for the MD/PhD dual degree program on the same application. Prerequisites and requirements can be found on the admissions website: <https://medicine.hsc.wvu.edu/md-admissions>.

AMCAS applications tagged for consideration for the MD/PhD program are reviewed separately by the MD degree admissions committee and by the MD/PhD program admissions committee. The latter committee, headed by the MD/PhD Program Director, evaluates the preparedness of the student to undertake original research as part of completion of a PhD Program. Successful applicants have significant research experiences as well as role models for a career as a Physician-Scientist. Applicants selected for further consideration will be invited for a 2-3 day interview process at the Health Sciences Center that involves both the MD degree interview (conducted identically to MD-only applicants), interviews by the MD/PhD Program's admissions committee, and a chance to tour the research facilities and meet current students and research faculty. The cost (lodging, transportation, and meals) for these visits is paid by the Office of Research and Graduate Education. Acceptance into the MD/PhD program requires the mutual consent by both committees and is contingent on acceptance into the MD Program.

A second mode of admission is by lateral transfer from the MD Program into the MD/PhD program. Requests for lateral transfer must be contemporaneous with the timeline of the normal AMCAS admissions process and be accompanied by the candidate's original AMCAS record, an essay detailing "Why the MD/PhD?", as well as recent letters of support from former research mentors. Acceptance is contingent on independent decisions from the MD Program's Committee on Academic and Professional Standards (CAPS) and the MD/PhD Program's admissions committee. Lateral transfers are typically granted after successful passage of the USMLE Step1 examination.

A third mode of admission is by transfer from the PhD programs in the Biomedical Sciences and the Clinical and Translational Science PhD program into an MD/PhD dual degree program. This transfer will use a "step-out" approach in which students complete 1-3 years of the PhD program, MS1 and MS2, completion of the PhD degree, and then MS3 and MS4. Details of this transfer process can be found in the appendix.

## V. Curriculum

### A. Coursework

#### 1. Medical years 1 and 2 (Pre-Clerkship Curriculum)

The Handbook for the MD degree lists the coursework required for completion of this degree. Students will complete the pre-clerkship coursework prior to beginning the research phase of their training and must pass the Step 1 USMLE exam. If a successful Step 1 score is not attained after the first try, the student will have three opportunities to take and pass this exam, but will not be permitted to begin the PhD portion of their training until earning a passing

score. Students are strongly encouraged to schedule their Step 1 USMLE exam prior to June 30 to ensure successful timing for transition to the PhD. The Step 1 exam must be passed before September 1 to remain in good academic standing in the MD/PhD Program. If the student chooses to retake the examination after September 1, the student is suspended from the MD/PhD Program without stipend until the exam is passed. Failure in the third attempt will result in dismissal from the MD/PhD Program. These actions of the MD/PhD Program are independent of any action(s) taken by the MD Program's CAPS.

## 2. PhD

Each degree-granting program affiliated with the MD/PhD dual degree program has unique requirements for program-specific coursework. Students can expect that attainment of the PhD within the MD/PhD program will be abbreviated compared to the stand-alone PhD program; however, all thesis requirements established by the specific PhD Program must be met to the satisfaction of that specific program.

### *Discussions on Scientific Integrity (BMS 701 and 702)*

Graduate students at West Virginia University are required to meet particular federal and University-wide standards regarding the responsible conduct of research (RCR). To meet these standards, all graduate students undergo RCR training during the first 2 semesters of research engagement at WVU. This course covers the required ethics topics specified by the National Institutes of Health (NIH) as well as training in Rigor and Reproducibility. In addition, students must complete an online RCR course offered by the Collaborative Institutional Training Initiative (CITI). CITI training can be completed at any time after registering for classes but it must be completed within 30 days of the beginning of the first laboratory rotation as a member of the MD/PhD program - the passing grade is 80%. Failure to do so may affect the student's ability to continue in the laboratory.

The Office of Research Integrity and Compliance (ORIC) will publish a training list derived from the CITI website database of those who have taken the training. This list will be published daily on the ORIC website (<http://oric.research.wvu.edu>) in the "Training Lists" section. To remain in compliance with NIH standards, students will need to retake the CITI training every 3 years that the student is active in research at WVU.

### *Research (Program subject code 797)*

During any semester in which a student is actively engaged in research or in the preparation of the dissertation, the student should be registered for 3 credits of research (797) using the subject code pertinent to their graduate program. Each research course has a syllabus that details the expectations when undertaking research and the criteria for obtaining a grade of S in this course.

### *Scientific Writing (BMS 720)*

The scientific writing course is taken in the summer between the first and second year in the

PhD portion of the MD/PhD program. This course is divided into 2 parts. The first part is to introduce students to manuscript preparation. Students may use their own data or a sample data set that will be provided to write a paper based on the format used in the *Journal of Neuroscience*. Although not all students will submit manuscripts to this journal, it provides a relatively straightforward structure and format that can be generalized to other journals. The background, details, methods, and data analysis in the paper will come from the student's own research area and will be evaluated by their mentor.

The second part of the Scientific Writing course is to introduce students to the grant writing process using a standard NIH predoctoral grant application format and a simple set of preliminary data. Students write the scientific portion of a grant proposal based on the format used by the NIH for a Ruth L. Kirschstein National Research Service Award (NRSA) Predoctoral Fellowship (F30). The scientific details in the grant application will come from the student's own research area and will be evaluated by their mentor. All seven Biomedical Programs and the Clinical and Translational Science PhD Program use the predoctoral fellowship format for the dissertation proposal defense (or candidacy exam). It is ADDITIONALLY highly encouraged that the student and his/her research mentor(s) use the completed grant-writing exercise as part of a formal F30 submission to one of the NIH component institutes that fund F30 fellowships (deadlines are early April, August, and December of each year). Consult directly with the MD/PhD Program Director well in advance of one of these deadlines for an explanation of the appropriate flow of F30 application filings to the HSC Office of Research and Graduate Education and the WVU Office of Sponsored Programs.

### *Seminars and Journal Club*

During each semester in the PhD portion of the dual degree program, students attend the PhD Program's weekly seminars, forums, and journal clubs. Each program has unique opportunities for its trainees; students should consult the specific PhD Program's handbook regarding expectations for these activities. In most cases, the student registers for a specific course representing the program's journal club and seminar series. These can also be attended without registering by students during any of the years of medical training, should scheduling permit.

### *Monthly Meetings*

Students are highly encouraged to attend the MD/PhD Monthly Meetings throughout each semester. The goal of the Monthly Meetings is to provide opportunities for social, academic, and professional growth.

### 3. Medical years 3 and 4 (Clerkship Curriculum & Post-Clerkship Curriculum)

Upon successful completion of the PhD degree, which requires defense of the dissertation and publication of at least 1 first author paper from their dissertation research, students reenter the Medical curriculum. Students are expected to return to MS3 in block 1. In certain



circumstances return to MS3 can occur in blocks 2 or 4, but these dates are not encouraged. Students are advised to organize clinical shadowing and refreshment activities during the month or two prior to entering clerkships. During the clinical years, the students complete the remainder of the curriculum for the MD degree and prepare for their next career step. The MD/PhD Program Director will work with the individual's PhD mentor(s) to craft a letter of support for the ERAS application to the Residency Match program, if desired.

## **B. Other Program Requirements**

### 1. MD/PhD dual degree-specific Individual Development Plan (IDP)

The IDP, written specifically for the MD/PhD dual degree student, provides resources to help students identify needed skills and assess progress in attaining these skills and in completion of the PhD degree, as well as reentry into the clinical clerkships and guidance in coordination of the dual degree with their future career plans.

The IDP is completed within the first month of beginning in the dissertation laboratory and is reviewed annually with the dissertation advisor. Annual review is reported using the MD/PhD IDP Annual Review form (available under *Forms* on the Office of Research and Graduate Education website). The form is placed in the student's file in the Office of Research and Graduate Education.

### 2. Annual committee meetings

The student's progress in completing the PhD degree is evaluated at least annually by his/her dissertation advisory committee (see specific PhD Program's Handbook and Section VI.C). This committee must be selected by the end of the first fall semester in the PhD Program. It is highly encouraged that at least one member of the student's dissertation advisory committee be a MD/PhD degree holder and/or a physician-scientist. The first meeting of the committee should occur prior to the end of the spring semester of the first year. During the first meeting, the committee should approve the student's plan of study and hear a presentation of the student's research plans and progress. The committee must meet at least annually and may request more frequent meetings to better assess progress toward the PhD degree. Committee meetings are to be documented and the student evaluated using the form or mechanism preferred by the student's graduate program. This documentation must be placed in the student's file.

### 3. Qualifying Exam

For most PhD Programs, passing the USMLE Step 1 exam satisfies the requirement of a program-specific qualifying exam. Students should consult the Handbook for their specific PhD program to determine if there are other activities related to this exam that must be met.

### 4. Candidacy Exam (Dissertation Proposal Defense)

Successful defense of a proposal outlining the student's dissertation research marks the entrance into PhD candidacy. Timely completion of this benchmark not only provides a guide for the remainder of the research but also provides an excellent springboard from which to apply for an external fellowship. The Proposal Defense begins with the preparation of a grant

application in the style of a National Institutes of Health (NIH) pre-doctoral fellowship (MD/PhD students apply for F30 awards). Portions of this grant application will be drafted during the *Scientific Writing* course. The proposed research is presented in a formal seminar to the faculty, graduate students, and other interested people, followed by an oral defense of the proposal to the student's dissertation committee.

The proposal needs to be successfully defended as soon as possible, and no later than the end of the fall semester of the second year in the PhD program (GRAD2). If the first defense is not successful, the student may petition his/her dissertation committee to retake the exam. Failure to pass the defense by the end of GRAD2 will result in dismissal from the PhD Program, the MD/PhD Program, and the need to petition the School of Medicine CAPS for reentry into the MD curriculum. Students with extreme circumstances may petition for a delay in this deadline. The petition must occur in writing to the Assistant Vice President (AVP) for Graduate Education and must include a strong rationale for the delay. Individual graduate programs may require that the Dissertation Proposal Defense occur at an earlier date and their date supersedes the deadline in this handbook.

With successful completion of the dissertation proposal defense, the student advances to candidacy for the PhD degree. WVU policy is that PhD candidates have five years to complete their degree once candidacy is reached. Students not meeting this deadline must petition WVU's Associate Provost for Graduate Education for permission to continue and may need to retake coursework or exams. Such extensions require extreme circumstances. The MD/PhD dual degree program aims instead for a four year time-to-completion of the dissertation from the start of the PhD portion of the dual degree. Students not meeting the four year time-to-completion requirement may be subject to academic probation and/or other sanctions by the MD/PhD Program and/or the School of Medicine CAPS. At a minimum, the student and faculty advisor will be asked to meet with the MD/PhD Program Director and the Assistant Vice President for Graduate Education to outline the strategy and timeline to complete the PhD requirements.

Students are encouraged to apply for a fellowship from a national funding agency. These include agencies such as the NIH (F30), NSF, DoD, Susan G. Komen, and the AHA to name a few. Students who choose to apply for a pre-doctoral fellowship should consult the Health Sciences Graduate Programs site on SOLE for helpful hints and guides on how to construct this application. The graduate program director is required to provide the Description of Institutional Environment and Commitment to training and should be consulted early in the proposal preparation process.

## 5. Time to Degree

Students are expected to complete the program within eight years of matriculation. Upon entering the PhD portion of the dual degree program, students should aim for a four year time-to-completion of the dissertation.

To support this timeframe, students reaching their fourth year of the PhD portion of the dual degree program are required to meet monthly with the MD/PhD Program Director. In these meetings students will provide research updates and review plans for degree completion. It is important to note that students taking more than five years to complete the PhD portion of the dual degree may be dismissed from the MD/PhD program.

## 6. Dissertation Defense

The student defends his/her dissertation research for the PhD degree by writing a dissertation, presenting it orally in front of a public forum, and defending it in private to his/her dissertation committee. Dissertation research must be original and make a significant contribution to the scientific literature. To pass, the student must receive the approval of 4 of the 5 members of their committee. Finally, the student is required to electronically submit the dissertation to the Electronic Thesis and Dissertation (ETD) program at WVU - <http://thesis.wvu.edu/>.

Students must have at least one first-author manuscript based on their PhD dissertation research and co-authored by their research mentor(s), published or accepted for publication in a peer-reviewed journal **before** they defend their dissertation research. In the case of joint first-author manuscripts, a manuscript can only fulfill this publication requirement for one author. This requirement is designed to protect the student from graduating without a first author paper, ***it is not the standard for successful completion of the degree***. This statement of a minimal requirement should not be misinterpreted to mean that the student is able to defend once they have a single first author publication. The decision of when a student has completed the aims of their dissertation rests with the dissertation advisory committee and the governing PhD Program. With some research projects, dissertation research will result in multiple first author publications and this outcome is encouraged.

*NOTE: All committee members must be present at the defense.* Please refer to url: [http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree\\_regulations/#thesesdissertationstext](http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree_regulations/#thesesdissertationstext) for University regulations controlling this exam.

## 7. Clinical experiences prior to returning to the third year of medical school

MD/PhD students are strongly encouraged to spend at least one half-day per week during the last month or two of their PhD program refreshing their clinical skills before entry into the clinical curriculum. This is especially important if the students have not performed clinical immersion(s) during their PhD training. Contacting the office of the Vice Dean for Medical Education well in advance of reentry is strongly encouraged, as is reaching out (with assistance from the MD/PhD Program Director) to WVU Clinical Department Chairs, their GME Residency directors and clerkship directors.

## C. Registration

### 1. Full-time student status

To receive/maintain a stipend and full tuition waiver, students must register for a minimum of 9 credits in the fall and spring semesters and for a minimum of 3 credits in the summer session. Students must be registered in every term until completion of the dissertation defense, or request a leave of absence, at which time his/her stipend and tuition coverage may be suspended. Failure to be continuously registered as indicated above is a violation of program policy and, after candidacy, is a violation of WVU policy; both are grounds for

dismissal. Exceeding 16 credit hours requires prior approval by the Associate Provost for Graduate Education.

## 2. Enrollment in additional degree or certificate programs is not permitted

Students may not attempt completion of any additional degree or certificate programs. The aims of the dissertation proposal cannot be abbreviated to accommodate the time requirement for the additional degree or certificate. The undertaking of any additional degree or certificates is prohibited, as this will inevitably hamper progress on the dissertation.

*NOTE: students may not take courses outside of the recommendation of the graduate program (i.e. physical education, music, dance) without the advance written permission of the Assistant Vice President for Graduate Education.*

## 3. Transfer of Graduate Credits/Courses

PhD students may transfer all credits with a B- grade or better, with preference to those credits that apply directly to their graduate curriculum. Only graduate credits earned at academic institutions accredited at the graduate level may be transferred. WVU HSC Admissions & Records must receive an original transcript from the transferring institution. Pending approval by the Assistant Vice President for Graduate Education, transferred credits/courses may substitute for required courses in the first-year core curriculum and/or for advanced courses required by the seven Biomedical Sciences PhD training programs. Transfer credit will not be accepted for the scientific integrity courses.

When transferring credits, please provide the name of the institution with address and zip code, the course number and name, and course description/syllabus as published by that institution. Please make reference to the WVU course it may replace if it meets a course requirement. Attach the original transcript from the transferring academic institution to this form and deliver in hand to the Office of Research & Graduate Education for final approval. Final decisions regarding substitution of required courses with transferred courses will be made by the Assistant Vice President for Graduate Education in consultation with Course Coordinators, Graduate Admissions Committee, and/or Graduate Director of the specific graduate program.

## **VI. Selection of Faculty Dissertation Advisor and Graduate Program**

### **A. Laboratory rotations to select a dissertation advisor**

The student selects a dissertation mentor from an approved list of available PhD-phase mentors (as provided by the HSC Office of Research and Graduate Education) and following completion of a laboratory rotation with that faculty member. Students should discuss available mentors (and get approval for the rotation) with the MD/PhD Program Director prior to commencing the rotation. The first rotation occurs during the summer before matriculation into the first year of the Medical School curriculum (MS1), commencing on July 1 and

continuing until the start of the medical student orientation in early August. The second rotation occurs between MS1 and MS2. This second rotation should commence on the Monday following the completion of MS1 and continue until the Friday prior to MS2. Students can arrange with the faculty member to have 1 week of vacation during this time. If the student has not successfully matched with a mentor/laboratory for their dissertation research after these 2 rotations, they can complete a third rotation during the summer after passing the USMLE Step 1 exam.

Students are required to match with a faculty mentor who will financially support the student in the conduct of their dissertation research. Students are responsible to find/match with a faculty mentor. Lack of fulfillment of this requirement by the end of the fall semester of the first year in the PhD program may lead to dismissal from the graduate program and the MD/PhD Program, and the need to petition the School of Medicine CAPS for entry into clerkship on January 1<sup>st</sup> of that following year.

1. Available mentor list:

Available mentors are faculty with full graduate faculty status, primarily tenured or in the tenure-track, who would like to recruit a graduate student into their laboratory and who are designated as an available mentor by the Office of Research and Graduate Education because they meet the criteria outlined here. Faculty on this list can be from basic science, public health science, and clinical departments.

*NOTE: Mentors for MD/PhD students must begin paying the student's stipend and health insurance beginning July 1 of the second year in the PhD portion of the program (GRAD2).*

Procedure for developing the available mentor list:

1. The available mentor list is updated annually. Each year in March or April, the Office of Research and Graduate Education contacts Department Chairs and Graduate Directors to provide names of individuals for consideration as an available mentor for the following academic year.
2. The Office then evaluates the faculty on this list based on the criteria below. The final available mentor list is at the discretion of the Senior Associate Vice President for Research and Graduate Education.
3. Faculty selected to be on the available mentor list will be contacted in May to provide a research summary that will be given to new students prior to their enrollment. If they prefer not to recruit a student, they can decline at this time.

Criteria:

*NOTE: Newly hired assistant professors in the tenure-track are generally included on this list because of the availability of start-up funds for research and the expectation that they will be successful in acquiring extramural support.*

To mentor a student, the faculty investigator should:

1. Have a project in mind for the student's dissertation, space in the laboratory, and

- time to mentor the student
2. Have extramural funding to support the student's stipend for the last 3-4 years of their degree or the demonstration of submitted and pending grant applications within the past year as well as a track record of funding to indicate the high likelihood of success in securing funding
  3. Have an active research laboratory as identified by research supply money and recent (within one year) publications
  4. Have regular graduate faculty status (NIOSH scientists can have associate status)
  5. Not have a student receiving stipend support from the Office of Research and Graduate Education after June 30 of the MD/PhD student's 2<sup>nd</sup> year in the program

Other considerations taken into account when assigning student mentorship:

1. Faculty mentor association with institutional fellowship opportunities, such as an NSF IGERT, an NIH T32 training grant, or a CoBRE
2. Student support by an internal fellowship such as the Ruby
3. Number of current students in the investigator's laboratory
4. Mentor's track record of successful and productive training of graduate students (if applicable)

## 2. Selection process:

Students select a dissertation advisor after completing two laboratory rotations. At the conclusion of each rotation, the student can discuss possible dissertation projects with the mentor. The student should not commit to join any laboratory until two rotations have been completed and the selection is approved by the Director of the MD/PhD Program and the Office of Research and Graduate Education. Final acceptance into the mentor's laboratory is at the discretion of the Office of Research and Graduate Education and the advisor, and requires completion of the Student Assignment Form, which is placed in the student's file.

## **B. Selection of a Graduate Program**

After matching with a faculty advisor, students select a graduate program based on their individual scientific interests and with the advice of their faculty mentor. Successful entry into a graduate program requires approval of that graduate program. The graduate program director signs the Student Assignment Form to indicate this approval.

Upon entry into a specific PhD training program, the student is now under the auspices of that graduate program until completion of the PhD degree. The table below lists the participating PhD degree-granting graduate programs and their directors.

### Graduate Programs

Biochemistry & Molecular Biology  
 Cancer Cell Biology  
 Cellular & Integrative Physiology  
 Exercise Physiology  
 Immunology & Microbial Pathogenesis  
 Neuroscience  
 Pharmaceutical & Pharmacological Science  
 Clinical and Translational Science

### Graduate Director

Visvanathan Ramamurthy  
 Scott Weed  
 Stanley Hileman  
 John Hollander  
 Mariette Barbier  
 Randy Nelson  
 Werner Geldenhuys  
 Mark Olfert

### C. The Dissertation Advisory Committee

The Dissertation Advisory committee is the body that assists in determining if the student has completed the requirements for the PhD degree with particular focus on completing the dissertation research. This committee needs to be selected in the fall semester of the first PhD year and the student should have a meeting with the committee before the end of the spring semester. Dissertation Advisory committees contain 5 faculty members. These members are selected by the student in consultation with his/her dissertation mentor. Agreement to serve on the committee and approval of the committee must be documented by the approval form prior to any meeting of the committee. The Dissertation Advisory Committee administers both the Dissertation proposal defense (candidacy exam) and the final defense. The composition of the committee for the MD/PhD student should meet the following guidelines:

1. The Chair of the committee must be a full-time WVU employee and have regular (full) graduate faculty status. Committees can have co-chairs, and only one of the co-chairs needs to have regular graduate faculty status
2. The majority of the members must have regular graduate faculty status
3. One member of the committee must be from a program different from the student's degree program
4. No more than one member can be from outside WVU
5. It is strongly suggested that the committee have one member who is a clinician-scientist and/or holds both MD & PhD degrees.

WVU policy on committees can be viewed at:

[http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree\\_regulations/#committeestext](http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree_regulations/#committeestext)

The inclusion of the dissertation advisor as a member of this committee varies between graduate programs. The student should consult the individual program handbook for the program policy.

*NOTE: The purpose of this committee is to evaluate the research plan itself and to also assist in determining the completion of degree requirements. Committee member signatures on the shuttle sheet indicate this has occurred. It is expected that the student will need the advice and mentoring of other faculty members both inside and outside WVU. It is not necessary for 'ad-hoc' mentoring faculty members to be a formal part of the committee in order to provide the advice; overly-large committees make scheduling meetings extremely difficult.*

### VII. Work Schedule, Illness, Vacation, and Leave of Absence Policy

*The PhD degree is awarded based on completion of original dissertation research and not merely time served in the program. Undue time spent away from the University will hamper your progress in research.*

## **A. Work Schedule**

During the PhD years of the program, students can expect their work schedule to follow the calendar of employees rather than the WVU academic calendar. Graduate students can typically be found working in the lab on University holidays and when classes are not in session. In addition, graduate students frequently keep schedules longer and/or different from a standard employee workday/workweek (i.e., the conventional standard of 8 hours a day for five days a week). The student is expected to discuss their work schedule with the faculty member with whom they are rotating and ultimately with their dissertation advisor; expectations vary between laboratories. For safety, students should avoid working in the laboratory alone particularly during the laboratory rotations.

## **B. Illness**

Graduate students do not receive a specified number of sick days per pay cycle or calendar year. Absenteeism from classes, graduate program activities and the laboratory should be reserved for true illnesses that are contagious or substantially hamper one's ability to function safely. Headaches and small malaises should not be used as reasons to miss class or avoid the lab. Missed work will need to be made up possibly by working weekends and evenings. Absenteeism from classes and other events needs to be communicated to each faculty member coordinating a class or event.

## **C. Vacation**

Expectations regarding vacations need to be discussed with the mentor well in advance of taking time off. While it is generally accepted that vacations are a part of the work/life balance of a PhD-phase student, expectations for vacation time likely vary among research laboratories, so it is important to establish these expectations upon entry in the laboratory. In general, 2 weeks total per year is a guideline and additional needs are worked out between student, advisor, and MD/PhD Program Director, if needed.

## **D. Leave of Absence**

The Health Sciences Center has a defined policy to deal with extended periods of time outside of the laboratory or class, generally greater than 2 weeks. Termed a "leave of absence" (LOA), a student may need to take such a leave due to grave illness, pregnancy/birth or adoption of a child, or family crisis. Students should consult this policy when considering such a leave. In some circumstances, the leave may be imposed upon the student administratively due to academic issues or policy violations. Procedures for this are detailed in this policy and there are forms for documenting all types of leave and any expectations or requirements upon the student's return.

### Grading and handling of courses during a leave of absence



When a student goes on a leave of absence, whether less than 1 month or a longer leave without stipend, issues develop regarding the grading of courses when the leave begins mid semester. To a large extent this will need to be handled on a case-by-case basis. For defined courses, the student will need to work with the instructor(s) and course coordinator to come up with a strategy and generally will need to take an “incomplete” grade (I). Courses like Research and Seminar (when used to monitor attendance) generally do not have a mechanism to fulfill an incomplete. If the length of the leave is known and it is before the deadline to withdraw, it would be best for the student to withdraw from these courses during the semester. If that deadline has passed, a student in good standing should be able to receive a grade reflecting their participation prior to the leave especially when the course is graded “satisfactory/unsatisfactory” (S/U) or “pass/fail” (P/F). Journal clubs can be handled by having the student write summaries of paper discussions that were missed. If the student is having a major medical crisis and cannot work during the leave, the grade assigned will reflect the time in the course or the student is given an incomplete (“I”) and the course instructor(s)/coordinator will establish a protocol for making up the work.

## **VIII. Academic and Professional Standards**

### **A. Academic standards**

#### **1. Standards**

It is expected that students will perform satisfactorily on all required courses. To remain in good standing in the Ph.D. program a student is required to maintain the following standards:

- An overall grade point average of 3.0 in graduate level coursework. Note that this is higher than the university standard of 2.75.
- Removal of any “incomplete” (I) grades within one semester or summer session of their original assignment on the transcript, unless special permission is granted by the Assistant Vice President for Research. Failure to remove an incomplete within one semester results in a permanent grade of “fail” (F) on the student’s transcript; this grade figures into the GPA calculation.
- Satisfactory written comments describing the student’s performance and professionalism in short rotations.

Failure to comply with these standards will result in the student being placed on academic or professional probation and may result in dismissal from the graduate program and the MD/PhD Program.

#### **2. Grading System and Reporting of Grades**

Graduate courses are graded as follows: A, B, C, or F, and P (pass) or F (fail). The Course Coordinator may submit letter grades with “+” or “-”, but the grade point average (GPA) is calculated using the base letter grade. Grades of F are not acceptable for course credit toward a graduate degree but are used in calculating the GPA. Research 797 is graded S/U; obtaining an unsatisfactory (U) grade in research are not counted for the calculation of the GPA. The first unsatisfactory (U) grade for 797 results in placement of the student on

probation; a second U in research 797 is grounds for dismissal from the graduate program and the MD/PhD Program.

A grade of Incomplete (I) is given when the instructor believes that the course work or other required programmatic activity is incomplete. All incompletes must be removed within the next semester of the calendar year; however, an individual instructor may require their removal within a shorter time period. Students who receive an incomplete grade must contact the faculty member who issued the incomplete to discuss its removal. If an incomplete is not rectified within the next semester, it will be changed to a grade of F.

*NOTE: Students cannot graduate with an F grade in any course within the Plan of Study or transcript. The course must be retaken and the grade brought into the acceptable range. Both the initial and subsequent grades will count toward the GPA on the transcript, and the higher grade will be placed in the Plan of Study. WVU requires that the overall GPA be greater than 2.75 to graduate regardless of the Plan of Study's GPA.*

## **B. Professional Standards**

MD/PhD students are expected to adhere to the following standards of behavior throughout their tenure in graduate school. This code governs student behavior in classrooms, research endeavors, academic and professional gatherings, travel, and in their daily conduct outside of the University. In addition to the code outlined below, all students will uphold the standards for the MD degree (as monitored and adjudicated by the School of Medicine CAPS) and the WVU Student Conduct and Discipline Policy. This code can be found at: [http://campuslife.wvu.edu/office\\_of\\_student\\_conduct](http://campuslife.wvu.edu/office_of_student_conduct)

### 1. Academic Integrity

Students will:

- not plagiarize the work of others either by directly copying that work or by summarizing the thoughts of others as their own;
- not cheat on any examinations, academic assignments or activities, nor provide unauthorized help to others during an examination or graded academic assignment;
- not alter examination scores, answer sheets, other graded materials, or their academic record;
- adhere to the University policies on academic integrity:  
<http://catalog.wvu.edu/graduate/enrollmentandregistration/#academicdishonestytext>

### 2. Scientific Integrity

Students will:

- have actually carried out experiments as reported;
- represent their best understanding of their work in their descriptions and analyses;
- accurately describe methods used in experiments;
- not report the work of others as if it were their own;
- adequately summarize previous relevant work in their publications;

- when acting as reviewers, treat submitted manuscripts and grant applications confidentially and avoid inappropriate use; and
- disclose financial and other interests that might present a conflict-of-interest in their various activities such as reporting research results, serving as reviewers, and mentoring students;
- adhere to the University Research Integrity Procedures that can be viewed at: <http://www.wvu.edu/~lawfac/mmcidiarmid/aic/Final%20RIC%20Policy%20WVU%205-9-11.pdf>

### 3. Scientific citizenship

Students will:

- strive to provide timely, efficient and high-quality work;
- function as an effective and respectful team member in the performance of collaborative research;
- strive to always acknowledge the contributions of their co-workers;
- strive to keep all work areas clean, organized, and conducive to high-quality research;
- respect shared work areas and reagents and insure that steps are taken to replenish reagents when they are in low supply;
- refrain from activities that might be disruptive to the work of others, including playing music or talk-radio without headphones, or carrying on loud conversations or telephone calls in research or study areas
- be attentive in presentations by their colleagues and provide constructive criticism as appropriate;
- seek and accept criticism without reprisal or defensiveness;
- strive to address and remedy situations as they arise and to follow through on all promises and commitments to co-workers;
- wear appropriate clothing in the laboratory and other research settings that is consistent with federal, state, and University regulations;
- speak-up and report any practice, condition, or situation that may cause harm or that is against federal, state, and University regulations;
- when traveling as a representative of the University and laboratory, will behave in a professional manner, uphold the rules of the laboratory with respect to the sharing of data, report expenses in a truthful manner, and refrain from frivolous use of travel funds for meals or modes of transportation that are unnecessary.

### 4. Professional interactions

Students will:

- strive to increase their knowledge and expertise in order to maintain qualifications consistent with the highest standards available in their discipline;

- accept and adapt to the continual change inherent in the creation and delivery of knowledge;
- be appropriate in dress, language and demeanor at all times and avoid language, dress, or conduct that is offensive to others or to community standards;
- respect and protect all students', staff, faculty, study participants', and patient's rights to privacy and confidentiality;
- minimize personal text messaging, e-mailing, telephone calls, and social media while at work;
- respond to all communications in a timely manner;
- listen carefully and be thoughtful and respectful in all forms of communication and during the attendance of seminars;
- provide training and experience to advance the scientific skills and knowledge of ethical research practices for any trainee under their supervision;
- treat all individuals in a caring, respectful, professional, and empathetic manner.

### **C. Graduate Programs Committee on Academic and Professional Standards (GP-CAPS)**

#### **1. GP-CAPS Membership**

During the time in the PhD program, the student's compliance with academic and professional standards is monitored by the individual PhD program. For violations resulting in dismissal, this decision is reviewed by GP-CAPS. This committee has representatives from all 7 Biomedical PhD programs and the Clinical and Translational Science Graduate Program.

#### **2. Student Review and Appeals Policy**

Students have the right to due process in all decisions regarding their grades, evaluations, and status in graduate school. Appeals of decisions regarding the above must follow a standard set of procedures. Procedures for student appeals can be found in the Graduate Catalog.

Students are also independently monitored for compliance to the professional and academic standards established by the School of Medicine's CAPS committee, during their participation in both the MD and PhD phases of their training.

## **IX. Financial Package and Fees**

### **A. Stipend & Tuition Coverage**

PhD students receive a stipend (currently \$28,000), full tuition waiver, and WVU student health insurance throughout the MD/PhD program beginning at their entry point into the program. To maintain this support the student must maintain a GPA of 3.0, successfully pass the USMLE Step 1 exam and the PhD program qualifying examination as well as the candidacy/dissertation proposal exam, demonstrate excellent progress toward completion of PhD dissertation research, and remain enrolled as a full time student at all times. The Office of Research and Graduate Education pays the stipend from entry into the PhD program and

through June 30 of GRAD1 (i.e., the first year of the PhD phase). On July 1 after the student's first year in the PhD program, the responsibility for the stipend is shifted to the mentor's laboratory funds or individual or institutional fellowships. If these financial sources become unavailable, the mentor will negotiate with his/her department and/or the Office of Research and Graduate Education for stipend support. Students who are in good academic and professional standing should not expect a gap in stipend support due to funding difficulties within the dissertation laboratory; the Department, Center, and/or Office of Research and Graduate Education will work together to provide necessary resources for the stipend.

*NOTE: Graduate study is a full-time commitment. Outside employment will detract from the academic efforts needed to complete the degree and therefore is prohibited.*

## **B. Student Health Insurance**

Coverage of health insurance is provided as part of receiving a Graduate Assistantship and starts in August. The insurance only covers the student. The cost of adding family members to the policy must be borne by the student. The student is advised to become familiar with the terms of this health insurance coverage and make sure that it is satisfactory to meet their medical needs. If it is not, they may purchase separate insurance, independently. Students may alternatively choose to be covered by a parent or spouse's policy; in this case the student must fill out the University waiver (<http://studentinsurance.wvu.edu/waiver>) to avoid being charged for the University student insurance. International students should pay particular attention to the terms of the student insurance, as coverage for health related expenses in the United States can be very different than in most other countries.

Questions or inquiries about health insurance: Aetna customer service: 1-866-654-2338, [www.aetnastudenthealth.com](http://www.aetnastudenthealth.com) once at this website, find our institution. Email address: [sio@mail.wvu.edu](mailto:sio@mail.wvu.edu) or call (304) 293-6815.

## **C. Fees**

Students are responsible for paying all University student fees unless they are covered by an individual fellowship that pays these fees. Failure to pay fees on time will result in a penalty that must be paid by the student. Fees are due prior to the start of each semester and summer session. Fees can be paid as a lump sum or through the WVU monthly payment plan administered by CashNet (<https://studentaccounts.wvu.edu/payment/tuition-payment-plan>).

## **X. Graduation Requirements**

### **A. Requirements for Successful Completion of the M.D. Degree**

The following requirements are set by the faculty in the School of Medicine and are subject to change. This list may not be complete, but is a fair representation of what is expected. Please check with the Office of Student Services for any recent changes. The School is in

the process of defining the graduation competencies that will be expected before awarding the MD Degree.

1. Satisfactory completion of all course work in the curriculum
2. Satisfactory completion of Step 1 and Step 2 CK and CS of the USMLE (within three attempts each; only two attempts are afforded to MD/PhD students)
3. Satisfactory completion of the school based [Clinical Performance Exam \(CPX\)](#) (within three attempts; only two attempts are afforded to MD/PhD students)
4. Satisfactory demonstration of professional behavior
5. Completion of 100 hours of community service
6. Recommendation to the faculty for conferral of the MD Degree by the Committee on Academic and Professional Standards
7. Affirmation by a majority vote of the faculty of the School of Medicine as worthy of being awarded the MD Degree

## **B. Requirements for Successful Completion of the Ph.D. Degree**

1. 3.00 GPA, successful remediation of any F grades, and S in Research (only one U allowed for Research across the entire PhD phase.
2. Fulfillment of registration requirements and payment of all fees
3. Annual reports of completion of the IDP and advisory committee meetings
4. Successful passing of the
  - a. USMLE Step 1 exam,
  - b. Dissertation Proposal exam, and
  - c. Dissertation Defense exam.
5. At least one first-author manuscript published (or in press) with mentor as co-author
6. Submission of required Approval Forms: All forms are online at: [www.hsc.wvu.edu/resoff/education/forms.aspx](http://www.hsc.wvu.edu/resoff/education/forms.aspx)
  - a. Plan of Study
  - b. Dissertation Committee (Approval Form)
  - c. Dissertation Proposal
  - d. Dissertation Defense
  - e. Shuttle Request and Form
7. Electronic Submission of Dissertation
8. Application for Graduation and Diploma Form (at completion of both degrees)
9. Exit interview with Assistant Vice President for Graduate Education

## **C. Forms and Steps for Completion of the PhD degree and Graduation**

### **1. Shuttle Sheet Request**

The “Request for Shuttle Sheet” must be submitted no later than 2 weeks before the dissertation defense and after a defense date has been set. This form requires signatures from all the members of the dissertation committee, the Director of the specific PhD Graduate Program, and the Assistant Vice President for Graduate Education. Signature of this form by the members of the committee indicates that they have received a copy of the dissertation. The student brings or forwards this form to the Office of Research and Graduate Education.

The date of the dissertation defense should be scheduled in a timely manner (i.e., Spring semester of the final PhD year) so that the student meets all deadlines necessary for completion of the PhD degree and reentry into clerkships by first block.

## 2. Shuttle Sheet

Prior to the defense, the student is provided a Shuttle Sheet by the Office of Research and Graduate Education. This form is a checklist of requirements that must be met for the student to have completed the PhD degree, even though the degree will not be conferred until the MD degree is completed. This form is signed by the members of the dissertation advisory committee and the Graduate Program Director upon successful defense of your dissertation. Returning the Shuttle Sheet form is expected within 24 hours of the dissertation defense to the Office of Research and Graduate Education.

## 3. Dissertation Defense

The PhD is completed by writing a dissertation in the format requested by the dissertation advisor and committee (guidelines are available on the website for the Office of Research and Graduate Education), presenting it orally in front of a public forum, and defending it in private to the dissertation committee. Dissertation work must be original and make a contribution to the scientific literature.

## 4. Electronic Submission of Dissertation

As of August 15, 1998, WVU requires the electronic submission of all dissertations (ETD's). See <http://www.wvu.edu/~thesis/> for comprehensive information regarding electronic submission of ETD's. In addition, consultants in the University's computer centers are prepared to help students and faculty in the process of preparing their ETD.

## 5. Application for Graduation and Diploma Form

*NOTE: Students in the MD/PhD dual degree Program do not graduate until both degrees are completed. Graduation with the PhD prior to completing the MD degree cannot be accommodated by the Registrar and will not be requested by the MD/PhD Program Director or the Office of Research and Graduate Education.*

This form should be submitted to the Office of Research and Graduate Education within the first 2 weeks of the semester you plan to graduate. If the degree is not actually earned during that term, the student must notify the Office and submit a new Form when registering for the term in which completion is again anticipated. The Office is responsible for maintaining all of the student's records necessary to certify the student for graduation.

## 6. Exit Interview

The exit interview is conducted with the Assistant Vice President for Graduate Education shortly after the successful defense of the dissertation and again at the completion of both degrees. The interviews are collegial and allow the student to express opinions about his/her

training experiences. The purpose of the interview is to provide constructive criticism for the improvement of the individual PhD program and the MD/PhD dual degree program.

A questionnaire will be provided and should be completed prior to the interview. All expressed opinions are confidential and recorded anonymously. In this form, the student will be asked for contact information for both themselves and 2 people who do not live with them but that would be able to find them should we lose contact. This is part of our effort to track our alumni. Tracking is necessary not only for continued program improvement but also to meet both University and Federal standards for evaluating the long-term success of our training strategies.



## 7. Investiture/Commencement

Graduates of the MD/PhD program can attend 2 separate ceremonies after the completion of both degrees. Investiture with the hood designating the PhD degree and conferral of this degree occurs at an Investiture/Commencement Ceremony for the graduate programs in the Schools of Medicine, Pharmacy or Public Health. Investiture with the hood designating the MD degree and conferral of this degree occurs at a separate ceremony. Note that students are only to have one hood on at a time. The PhD hood is not worn to the MD ceremony and *vice versa*. The ceremonies culminate by recitation of the Oath of Hippocrates for those students receiving the MD degree, and the Ethical Affirmation for Scientists for those students receiving the PhD degree. This latter oath was originated at WVU and was published in the journal, *Science*, in 2003.

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**WVU Health Science Center****Acknowledgement Form for entering graduate students**

As an entering graduate student, I agree to review the policies and procedure published in the student handbook provided to me at orientation and available on-line as well as the additional information in the on-line Student Conduct Code listed below. I understand that I may seek discussion and clarification of these documents from the Assistant VP for Graduate Education at the Health Science Center. Please be sure to review these specific policies and sign each statement below.

Name: (printed or typed) \_\_\_\_\_ Date: \_\_\_\_\_

**The Student Handbook for Graduate Students in the MD/PhD program at the WVU Health Science Center.**

I have read and understand the Handbook of the MD/PhD program at the WVU Health Science Center; both the information within this handbook and on-line catalogs and policies to which this handbook refers. These include but are not limited to:

- WVU Graduate Catalog (<http://catalog.wvu.edu/graduate/>), and
- Campus Student Code ([http://campuslife.wvu.edu/office\\_of\\_student\\_conduct](http://campuslife.wvu.edu/office_of_student_conduct)).

I agree to abide by the requirements outlined in this document as well as the University requirements governing these degrees.

Signature: \_\_\_\_\_

**Academic and Professional Standards**

I pledge to adhere to the Academic and Professional standards for graduate students (section VIII of this Handbook) and to maintain the highest standard of scientific integrity in all that I do.

Signature: \_\_\_\_\_

**Federal, State, and University Requirements for Laboratory Conduct**

I agree to adhere to all Federal, State, and University policies and requirements for the conduct of work in the laboratory. I will remain up-to-date on all certifications for both laboratory conduct and the responsible conduct of research.

Signature: \_\_\_\_\_

## MD/PhD – Individual Development Plan (IDP)

Student name: \_\_\_\_\_ Date \_\_\_\_\_

Advisor name: \_\_\_\_\_

**Directions for the student:** This form is a record of the annual review of your IDP. Complete the assessment and discuss with your advisor. You and your advisor need to sign the last page. Keep a copy for yourself, give a copy to the Research Office for inclusion in your file.

### Skills Assessment

Rate your accomplishment in each area using the numerical scale where 1= highly deficient and 5 = highly proficient. Use the full range of scores. It is expected that you will be deficient in many areas – that is why you are seeking training.

#### Research Skills and Scientific Knowledge

						Check if this a target skill for this year
Broad based knowledge of science	1	2	3	4	5	_____
Critical evaluation of scientific literature	1	2	3	4	5	_____
Technical skills related to my specific research area	1	2	3	4	5	_____
Experimental design	1	2	3	4	5	_____
Keeping a laboratory notebook	1	2	3	4	5	_____
Statistical analysis and interpretation of data	1	2	3	4	5	_____
Creativity/innovative thinking	1	2	3	4	5	_____
Understanding submission and the peer review process	1	2	3	4	5	_____

#### Communications

Writing for a research proposal or publication	1	2	3	4	5	_____
Writing with appropriate grammar and structure	1	2	3	4	5	_____
Speaking clearly and effectively	1	2	3	4	5	_____
Presenting research to different audiences	1	2	3	4	5	_____
Seeking advice from advisors and mentors	1	2	3	4	5	_____
Working with constructive criticism	1	2	3	4	5	_____

<b>What program requirements do you need to complete and what is your plan to fulfill them?</b>
---

<b>What fellowships are you applying to?</b>
--

<b>What conferences would you like to attend?</b>
---

**Goals**

<b>What are your goals for this year?</b>

**Research Development**

<b>How do you feel your project is progressing?</b>
<b>Describe any unanticipated challenges or factors that negatively affected your progress</b>
<b>What do you expect will be your greatest challenges this year?</b>
<b>What help can your advisor or other faculty/staff provide? Indicate if you need help finding resources.</b>

**Professional Development**

<b>What is your primary medical interest and how does this integrate with your dissertation research, your 5 year plans, and where you see yourself in 10 years?</b>
<b>What activities do you have planned to better inform your future career decision?</b>
<b>Do you have plans for clinical shadowing or immersion while still conducting your dissertation research?</b>
<b>What preparations are you doing to reintegrate back into clinical medicine?</b>

**Personal Development**

<b>Your success is tightly linked to your wellness. What are you doing to maintain this?</b>
<b>Do you feel you have enough time for outside activities? What hinders a healthy work/life balance?</b>

**For the Advisor:** During your meeting with the student, evaluate if the assessment and plans are realistic and work with the student to modify them if needed. Cover the following questions to review of the effectiveness of your interaction with the trainee and add a check mark to indicate that they were completed.

\_\_\_\_\_ Do you have enough opportunities to talk about your data with me or to present it to others?

\_\_\_\_\_ Are your meetings with your dissertation committee effective; can we do anything to improve them?

\_\_\_\_\_ What other help do you need to help you achieve your goals for the coming year?

\_\_\_\_\_ If you, the advisor, know of specific commitments this year that will affect when you can read drafts of papers, proposals, etc. please make the student aware of these. Students should be aware that other commitments may arise and to check the advisor's schedule before expecting them to return drafts by a certain date.

Signature of Student: \_\_\_\_\_

Signature of Dissertation Advisor: \_\_\_\_\_

<b>Additional comments from the advisor (optional):</b>



## **Long-Term Leave of Absence Policy Graduate Programs in the Health Science Center**

### **1. INTRODUCTION AND DEFINITION**

Under certain circumstances, graduate students may request or have imposed a long-term leave of absence (LOA) during which they are recessed without stipend from the program for a specified duration. There are several categories under which a student may petition for a leave of absence: medical, personal, and academic. In addition, an administrative leave of absence may be enforced due to serious academic or professional deficiencies.

A long term LOA is a period greater than 1 calendar month duration during which time the student is not engaged in significant productive activity toward the degree. The LOA may last up to 1 year. WVU policy is that students can only be inactive in their program for 1 year after which time they would need to reapply for admission.

### **2. POLICY**

The request for the long-term LOA should be presented in writing to the Graduate Program Director and reviewed by the Program's faculty or subcommittee who will then recommend to the Associate Dean for Research and Graduate Programs (Dentistry, Nursing, Pharmacy and Public Health) or the Assistant Vice President for Graduate Education (Medicine) the terms under which the student may return to the program. Following the agreed upon time of absence, a student in need of more time in recess will be officially withdrawn from the program, unless the above administrative groups grant an extension because of special circumstances. Once withdrawn from the program, individuals must reapply for and gain admission to resume their studies. If a student fails to return from the LOA on the specified time and has not made any request for an extension, they shall be immediately withdrawn from the program. Reentry into the program will require a new application for admission.

### **3. TYPES OF LEAVE AND PROCEDURES**

#### **A. LEAVES OF ABSENCE WITHOUT STIPEND**

##### **1) Student-initiated leave:**

**Medical LOA:** This type of LOA is reserved for acute medical problems of a physical or mental health nature affecting the student or a first-degree relative requiring intense medical care. In order to return to the program, the student will present a letter of release from the treating physician clearly stating that they are fit to return to the rigors of a graduate program.

**Personal LOA:** This type of LOA is used for reasons of a personal nature affecting the student's ability to be successful in the program. These may include, but are not limited to requests regarding family-related issues unrelated to health, visa issues, or a reconsideration of career direction.

**Academic LOA:** This type of LOA is reserved for students who desire a recess from the program while currently unsatisfactory in a course prior to the issue of a final evaluation in that course. Student's leaving the program for this reason will have specific requirements for their return, which will generally involve successful remediation of their knowledge base. Return to the program will involve evaluation of the remediation as well as the entire academic record. Students who fail to successfully meet the criteria stipulated in the letter granting the leave may not be permitted to return. Should a student be permitted to return to the program, the Graduate Program will recommend if the student returns on academic probation or in good academic and professional standing. Students, who are recommended not to return to the program, must reapply and gain admission in order to resume.

**Procedure:** Request for a LOA must be initiated in writing. Student-initiated LOA requests use the Long-term LOA form. The student and the student's advisor (if applicable) should sign the form and present it to the Graduate Program Director. The request will be reviewed by the Program Director, Program Faculty and/or subcommittee and appropriate Dean. Upon acceptance of the request the student will be notified in writing and the letter will contain any applicable requirements for return to the program. Upon return to the program, the student presents any required documentation to the Graduate Director. Once the return is accepted, the Graduate Director signs the LOA form indicating that the leave is over. If a student chooses not to return from the LOA, they should submit a letter to the Graduate Director indicating this fact.

## **2) Administratively-initiated leave:**

**Administrative LOA:** This type of LOA is imposed by the Graduate Director and/or appropriate Dean for that Graduate Program due to academic or professional deficiencies, such as failure to progress in research, inattention to the academic or professional standards of a graduate student, or unexplained absence from the program of greater than 1 week. This type of LOA will be part of the student's permanent record.

**Academic LOA:** This is the same as the student-initiated leave and is due to a deficiency in academic standing prior to the final evaluation in a course(s).

**Procedure:** The administrator (Graduate Director, advisor, Dean) initiates this request in writing. The LOA should indicate the reason for the leave, the length of the leave, and any requirements for return. LOA requests should be approved by the Graduate Director and appropriate Dean prior to presentation to the student. The student should sign the letter indicating that they understand the terms. Upon return to the program, the student presents any required documentation to the Graduate Director. Once the return is accepted, the Graduate Director signs the LOA form



indicating that the leave is over. If a student chooses not to return from the LOA, they should submit a letter to the Graduate Director indicating this fact.

## B. LEAVES OF ABSENCE WITH STIPEND

**Parental LOA:** This is a LOA due to the birth or adoption of a child. Stipend should remain intact for the duration of the leave term as specified below.

- 6 Weeks for an individual
- 8 weeks total per family if both parents are enrolled in HSC graduate programs

**Procedure:** A specific form is not necessary for parental leaves of 6 or 8 weeks duration but the times frame should be communicated between the student and the mentor. If the mother has complications that require more time away than 6 weeks either before or after the delivery, a letter from the student's doctor is required documenting the amount of leave necessary. In general, a 2-week extension of this time will be granted. Longer periods than this will be handled on a case-by-case basis and depend upon the ability of the student to achieve significant progress toward the degree.

**Other LOA:** In some circumstances, the student may not be in residence in the program for greater than one month but may be able to achieve significant progress toward the degree. During this time, the student may remain on stipend.

**Procedure:** Such agreements should be documented in writing in letter format and include:

1. Reason for leave
2. Duration and timing of leave
3. Planned activities during leave
4. Planned method of communication during the leave

The letter documenting these conditions must be signed by the Graduate Director and placed in the student's file.

## NOTES:

**Extension of time in the program or to meet program-specific requirements:** If the student is unable to complete the degree within the University time limit for attaining the degree, they may petition for an extension equal to the time of the LOA. Petitions must be presented to the Graduate Director in writing 6 months prior to the end of this limit and the graduate director should forward ones for consideration to the Assistant Vice President for Graduate Education. Petitions for extensions of other program specific activities such as candidacy exams, seminars, etc. should also be handled in writing and occur prior to the semester in which the activity is to take place.

**Exceptions to the above:** Programs that are accredited may have specific residency requirements and the rules of the accrediting agency supersede these institutional guidelines.



## REQUEST FOR A LONG-TERM LEAVE OF ABSENCE

Date of request:

Name:

Graduate Program:

Type of leave:

- Personal
- Medical
- Academic
- Administrative

Person initiating request:

Date of the start of leave:

Date of anticipated return:

Reason for request:

Signature of student: \_\_\_\_\_

Signature of advisor: \_\_\_\_\_

## Student Review Policy for Graduate Programs at the Health Sciences Center in the Biomedical, Clinical and Translational, and Health Sciences

*This policy only applies to students enrolled in the following Graduate Programs:*

### Graduate Program

Undifferentiated	1 <sup>st</sup> Year Biomedical Sciences
Masters	Health Sciences Biomedical Sciences Clinical and Translational Science
Doctoral	Biochemistry and Molecular Biology Cancer Cell Biology Cellular and Integrative Physiology Exercise Physiology Immunology & Microbial Pathogenesis Neuroscience Pharmaceutical & Pharmacological Sciences Pathway <sup>1</sup> Clinical and Translational Science
Combined	M.D./Ph.D. Scholars Training Program <sup>2</sup>

Each graduate program is responsible for monitoring the progress of its own students, identifying deficiencies, and recommending paths for remediation. Students receive evaluations on a semester basis through coursework and research grades, and at least annually via program review and for Ph.D. students, meetings of his/her dissertation advisory committee. Whereas individual programs may have unique expectations of their students, many requirements are common to all programs. The following review process is designed to encourage high standards of scholarship, integrity, professionalism, ensure due process, and provide opportunities for remediation. This process also recognizes and affirms the unique aspects of discipline-specific research training that is embraced by individual graduate programs.

<sup>1</sup>PPS degree is awarded by the WVU School of Pharmacy

<sup>2</sup>only applies during the Ph.D. phase of the M.D./Ph.D. training program

### Definitions

**Candidacy exam:** This is also called the defense of the dissertation proposal. This exam involves the preparation of a written document outlining the plans for the student's dissertation research. The document is written in the style of a fellowship application. The student presents a seminar to the faculty describing his/her plans and then meets separately with his/her dissertation advisory committee to defend his/her ideas. The student can retake this exam one time without consequence (probation, demotion to MS or dismissal). For Ph.D. students, the exam must be completed prior to the first day of class of the Fall Semester of their fourth year in graduate school; individual programs may impose an earlier deadline and this deadline is binding. For M.D./Ph.D. students, the exam must be completed by the end of the fall semester of the second year after beginning the research phase of their curriculum.

Dissertation mentor: This is the faculty member that is the advisor for the student's dissertation research. This individual must be a full member of the Graduate faculty and is either the principal investigator of the laboratory in which the research is conducted or is a collaborator of the scientist in whose laboratory the research is conducted.

Dissertation advisory committee: This is a group of at least 5 graduate faculty that oversee the progress of the student during his/her dissertation research. At least 3 members must be faculty from the student's graduate program. The student, in consultation with his/her dissertation mentor, selects the committee members. The committee meets at least annually. During these meetings, the student presents his/her research progress and plans for completion of degree requirements and post graduation plans. The committee provides feedback on this and reviews the student's progress on the Plan of Study and his/her academic achievement. The results of this meeting are recorded on an evaluation form that becomes part of the student's file.

Graduate Programs-Committee on Academic and Professional Standards (GP-CAPS): is composed of biomedical sciences faculty from the HSC who hold regular membership on the graduate faculty and includes representatives from both the Schools of Medicine and Pharmacy. The Vice-President for Health Sciences Research and Graduate Education appoints the faculty to serve on GP-CAPS. The primary role of this committee is to ensure that student performance concerns are managed equitably and consistently across the graduate programs served by this policy.

Graduate program director: this is the faculty member responsible for coordinating the activities of the graduate program. The biomedical graduate programs have interdepartmental faculty membership; therefore the Assistant VP for Graduate Education provides administrative oversight of all the graduate programs, rather than a department chair.

Student's file: The student's file located on SOLE contains his/her application, transcripts, graduate forms, correspondence, and other relevant communications or notifications. The duplicate copy resides in the Office of Research and Graduate Education. Students are instructed to provide copies of all forms required for graduation.

Undifferentiated first year students: The 7 biomedical Ph.D. programs recruit students via an undifferentiated or umbrella admissions process. Applicants are screened and admitted by an admission's committee made up of representatives of all 7 programs. The students take a common first semester curriculum and do research rotations to choose a dissertation mentor. Once a dissertation mentor is selected, the student requests admission to one of the 7 biomedical graduate programs and from that point the student is governed by the handbook for the specific graduate program. Choice of mentor and graduate program occurs by the end of the fall semester or during the spring semester.

Probation, suspension and dismissal: Definitions of these terms can be found in the University Graduate Catalog. The exception to this is that the GPA requirement for the graduate programs governed by this policy is 3.0.

<http://catalog.wvu.edu/graduate/enrollmentandregistration/#probationsuspensionstext>

## Review of Graduate Student Performance

### 1. Documentation of Student Performance

- Student performance in graduate education is rated using the following measures:
  - Grades in classes.
  - Maintenance of a GPA of 3.0 or high
  - Performance on the Qualifying examination and the Candidacy examination
  - Performance in the conduct of research as evaluated by the dissertation/thesis mentor and the dissertation/thesis advisory committee
  - Performance in other curricular activities as evaluated by a faculty member, the mentor, or faculty/University committee overseeing that activity
  - Congruence of actions and behaviors both on and off campus to the WVU Student Code of Conduct (<http://campuslife.wvu.edu/r/download/180235>) or of professionalism (see relevant handbook for graduate program)
- Student performance in research is evaluated at the end of each semester and summer session and reflected in the grade in research provided by his/her mentor. This grade includes both the letter grade and written comments provided by the mentor and the evaluation of the student's dissertation advisory committee meeting.
- Student's overall performance is reviewed at least once per year annually by his/her dissertation/thesis advisory committee and by his/her graduate program. Performance of students in the first year of the 7 biomedical PhD programs, the MS in Health Sciences and the MS in Biomedical Sciences is reviewed semi-annually by GP-CAPS.
- Deficiencies in student performance can result in recommendations for remediation, disciplinary action, or both.

### 2. Performance That May be Subject to Disciplinary Action

- Unsatisfactory performance by a graduate student includes, but is not limited to:
  - inability to maintain a GPA of 3.0, or achieve minimum grades of "B" in required courses
  - inadequate research progress, as judged by the mentor or dissertation committee and documented in the advisory committee evaluation or written comments at the time a grade for research is assigned (even if the grade is S), or a grade of "U" in research (a combination of two "U" grades in research (xxx797) or dissertation (xxx798) is grounds for dismissal)
  - failure to complete benchmarks in a timely manner (i.e., qualifying exam, proposal defense)
  - reaching the limit on time to degree (5 years post the candidacy exam for Ph.D. students and 8 years total in the program for M.S. students)
  - poor attendance/participation as specified by graduate program handbooks or course syllabi at required program activities (i.e., journal clubs and seminars)

- unapproved extended or multiple absences
- violations of the WVU Student Code of Conduct (<http://campuslife.wvu.edu/r/download/180235>) or of professionalism (see relevant handbook or for Biomedical Science Students: <http://www.hsc.wvu.edu/resoff/graduate-education/phd-programs/biomedical-sciences/1st-year-handbook/#ProfessionalStandards>)
- Problem(s) must be brought to the attention of the graduate program director and documented in the student's file. Documentation can include:
  - an unsatisfactory grade on the transcript,
  - a letter from the student's dissertation mentor or another faculty member,
  - the evaluation report of the student's dissertation advisory committee meeting

### 3. Graduate Program Response to Unsatisfactory Student Performance

- Student notification: Within 5 calendar days of notification of the problem, the program director notifies the student in writing describing the unsatisfactory performance, measures necessary to correct the deficiency, and a timeline for correction. Note: This and all subsequent communication with the student are sent via email and the student must sign and return a copy of the letter to document his or her understanding of the concern/s and, if applicable, acceptance of conditions for remediation.
- Ascertaining student's side of the story: The program director meets with the student to ascertain his/her viewpoint on the problem and ability to correct the deficiencies. Any mitigating circumstances are noted and a written summary of this meeting, co-signed by the student, is placed in the student's personnel files.
- Determining the need for additional courses of action: The program director discusses the student's situation with the mentor and dissertation advisory committee, if formed, to determine if any additional courses of action are necessary. The student can be present at all or part of this meeting by the request of the program director, mentor or dissertation advisory committee. The student is informed in writing (via email) of the results of this meeting and is given the opportunity to provide more information or rebut the recommendation either in writing or in person. If the problem does not involve a gross infraction of University policy as defined by the WVU Student Conduct Code or the Office of Academic Integrity, the case generally does not proceed beyond the Graduate Program level. Likewise, sanctions excluding dismissal are handled at the Graduate Program level so long as the student accepts the remediation.
- Deficiencies that are not corrected within the timeline established in the remediation letter, and cases that result in recommendations for probation, suspension or dismissal are referred to the graduate faculty of the specific graduate program or subcommittee thereof.
  - Once a student has had his/her first meeting with his/her dissertation advisory committee, recommendations to dismiss the student should originate from this committee.

- A minimum of three members of the student's dissertation advisory committee, including the mentor, and a representative from the HSC Office of Research and Graduate Education must attend the faculty meeting to assist in determining a course of action. Student may be asked to submit a written explanation, and/or to appear before the graduate faculty subcommittee.
- Potential outcomes of the Graduate Program Level Review are:
  - a penalty may be imposed, such as receiving a grade of zero for an examination
  - the student may be placed on probation, with requirements set forth in writing for the student to remediate deficiencies and remove probationary status
  - the student may be suspended from the program with specific directions on how to be reinstated
  - a Ph.D. student may be demoted to the Master's in Biomedical Sciences program
  - the student may be removed from the training laboratory
  - the student may be dismissed from the graduate program; all program dismissals will be reviewed by GP-CAPS to determine if the student is dismissed from all programs in the Biomedical Sciences or if they can transfer to another program pending approval of that program and finding a mentor that will support their continued study toward the degree.
- The program director reports all major infractions of institutional research procedures, and all recommendations for probation, suspension, or dismissal resulting from the Program Level Review, in writing, to the chairperson of the GP-CAPS. The report indicates the concern, the program faculty findings and actions/recommendations, and the student's response, if any. The student is provided a copy of this report and is given the opportunity to provide a written rebuttal of the letter and/or appear before GP-CAPS to explain his/her position.

**NOTE:** Plagiarism and other forms of academic/research dishonesty, including but not limited to falsifying data or academic credentials, are also referred to the West Virginia University Office of Student Conduct and/or the Office of Academic Integrity (<http://oric.research.wvu.edu/academic-integrity>).

#### 4. GP-CAPS Review

- GP-CAPS meets at the end of each semester to review the academic and professional performance of first year-undifferentiated students, M.S. Students in Biomedical sciences and Health Sciences, and others brought the attention of the committee by a graduate program. Special meetings can be called to handle significant problems that occur outside of this meeting time.
- In the case of reports originating from graduate programs, GP-CAPS may request to meet with the student prior to rendering their decision. If the student is asked to appear before the GP-CAPS, s/he may be accompanied by a peer or faculty member of his/her choosing that is affiliated with the Health Sciences Center. This individual may confer with the student, but may neither speak for the student nor participate in the proceedings directly, unless requested to do so by the GP-CAPS.

- The Assistant VP for Graduate Education and the graduate program director participate in the GP-CAPS meeting, but are *ex-officio*, non-voting members.
- GP-CAPS may:
  - concur with the graduate program's findings and actions/recommendations
  - impose different actions or penalties based on the same findings or on additional findings
  - determine if a student recommended for dismissal from a graduate program can switch to a different program, and establish conditions associated with this change, if any.
- For M.S. students and students in the first year of the biomedical Ph.D. program, progress reviews as well as all recommendations will originate with GP-CAPS. For these students, GP-CAPS may:
  - determine that the student has met standard and advances to the next semester of the curriculum
  - impose remediation, probation, suspension, or dismissal based on their findings
- The GP-CAPS chairperson reports the Committee's findings and decisions, in writing, to the student, the program director and in the case of recommendations for dismissal, the Vice Dean for Education and Academic Affairs (dean designee for School of Medicine) or, for students in the Pharmaceutical & Pharmacological Sciences pathway, the Dean of Pharmacy. The Vice Dean for Education and Academic Affairs (dean designee for School of Medicine) adjudicates all matters pertaining to M.D./Ph.D. students, regardless of the graduate program.

## Appeals Policy

### General Information

- Students may appeal any academic penalty or sanction imposed by an instructor, the institution or its constituent academic units, as prescribed in the "*Academic Rights, Penalties and Appeal Procedures*" section of the WVU Graduate Catalog.
- The school or college dean (or his/her designee) is the final level of appeal for final grade penalties or exclusion from class. The Associate Vice President for Academic Affairs at the Health Sciences Center is the final level of appeal for academic probation or suspension from a program or school. The Office of the Provost is the final level of appeal for dismissal from the program or university.
- When a penalty is imposed for academic dishonesty, the University's Academic Dishonesty procedure is followed, as prescribed under WVU Board of Governors Policy 31, concurrent with Policy 15.



## **Policy on transfer of students from the PhD programs in the Biomedical Sciences and the Clinical and Translational Science PhD program into an MD/PhD dual degree program**

This transfer will use a “step-out” approach in which students complete 1-3 years of the PhD program, MS1 and MS2, completion of the PhD degree and then MS3 and MS4.

1. The student must have completed at least one year of the PhD program and it is recommended that student's complete as much of the PhD coursework as possible prior to the transfer so as to minimize distractions from research upon their return.
2. Student must be accepted into the MD curriculum through the standard application process and be in good academic and professional standing in the PhD.
3. Student must have written permission/support of the Assistant VP for Graduate Education, the Graduate Director of their PhD program, the Director for the MD/PhD Program, the Vice Dean for Education and Academic Affairs of the School of Medicine, and their dissertation advisor in order to “step-out” of the PhD program to start the MD degree.
4. Students will need to petition their Graduate Program regarding any examinations that they need to pass before they “step-out” of the PhD program. Students should not assume that they are automatically in the MD/PhD program and thus exempt from qualifying exams.
5. Students commence the standard first 2 years of the MD curriculum beginning with the orientation week, at which time they relinquish their stipend, tuition support (waiver and scholarship), and health insurance until acceptance into the combined MD/PhD program.
6. During the summer between MS1 and MS2, students will return to the dissertation laboratory as part of the INTRO program for MS1 students and receive the summer stipend provided by that program.
7. Upon successful completion of all MS1 and MS2 course work and passing the USMLE Step 1 exam, the student needs to formally petition the School of Medicine Committee on Academic and Professional Standards and the Director of the MD/PhD program to reenter the PhD program as an MD/PhD student.
8. Upon successful petitions to reenter the PhD program, the student is formally considered to be an MD/PhD dual degree scholar, and will receive the standard financial package of the MD/PhD program: stipend, tuition waivers, and health insurance. The dissertation advisor should note that these students will need to be immediately provided a stipend out of laboratory funds as they will not be eligible for a year of stipend support from the Office of Research and Graduate Education; this support was provided as part of the first 2 years of the PhD program.
9. Students in this pathway will be expected to complete all program requirements specified for MD/PhD students in their PhD program with the exception that the deadline to pass the candidacy exam (dissertation proposal) will be earlier and must occur by the end of spring semester of the first year back in the PhD program.
10. Because the student has already completed time in the PhD and in laboratory research, and may have substantial preliminary data, the advisor and student should plan a timetable allowing completion of the PhD degree within 3 years of passing the USMLE step 1 exam.
11. Upon return to the MD curriculum (MS3 and MS4) students meeting academic and professional standards will continue on the standard financial package of the MD/PhD program: stipend, tuition waivers, and health insurance.

12. Continuation of the financial package will remain contingent on maintaining the academic and professional standards of the MD portion of the curriculum.
13. Students may **NOT** work toward any additional degrees/certificates as part of this program.
14. PhD students admitted to the MD program pending School of Medicine approval may defer admission for one year. If the student defends their dissertation prior to starting the MD curriculum and thus does not need to reenter the PhD program, they will not be eligible for a stipend or tuition waiver.

## Changing mentors

Occasionally students need to change mentors in the course of completing their dissertation research. The protocol to be followed varies depending on the reason:

1. *Mentor has left the University and you are remaining at WVU.* In this situation, you should immediately meet with your graduate program director and set up a plan based on whether or not you will continue on the same project and/or if the mentor will remain involved after he or she leaves. Regardless, you should expect to have another faculty member as an on-site advisor and you should expect to be moved into the laboratory of the on-site advisor or another faculty member conducting similar research.

2. *You are not getting along with your mentor.* Unhappiness in your chosen lab and/or with your mentor does not mean that you will definitely need to leave the laboratory. The key to handling these situations effectively is to act as soon as you sense a problem.

First, discuss with your mentor what is troubling you. The mentor may not realize that you were having trouble and may be willing to work with you on a solution. Consider if you were expecting the mentor to fill too many roles and that additional mentors may be helpful for concerns that are less “research-based”.

Second, if talking with your mentor or spreading mentoring roles does not work, immediately involve another faculty member. Ideally, this should be the graduate program director, a member of your committee, the department chair most associated with your program or the AVP for Graduate Education (note: this individual is always willing to help but may require that you ultimately go through channels with your program director).

Third, if remaining in the mentor’s laboratory is no longer an option, you need to work with the graduate program director and the AVP for Graduate Education, to identify candidate mentors.

Fourth, candidate mentors will need to be interviewed as to their willingness to accept a new student and a trial period is established to determine if the laboratory is a good fit. The trial period is generally at least 2 weeks but should not extend beyond a month.

Fifth, once a new mentor is found, you need to re-do your committee approval form. This will both indicate the new mentor and ensure that the committee is appropriate for the new project. If you will be deleting committee members, please inform them in writing that they will no longer be on your committee and thank them for their service or willingness to serve. If the timing is such that you may be delayed in completing the candidacy exam, you need to petition the Graduate Program Director and the AVP for Graduate Education for an extension and a firm date will be determine at which time the exam will be taken.

Finally, you must refrain from any negative comments about the previous mentors. Mentor/mentee relationships fail. Fortunately this is not often but in each case it reflects mutual problems that could not be overcome. No one person is at fault and thus no blame should be assigned. Maintaining a professional approach will result in a smooth transition.

## Guidelines for preparation of theses and dissertations

Neither the University Graduate Catalog nor the Office of Research and Graduate Education provide strict dictates for the structure of theses and dissertations. Students and faculty should check with individual graduate programs to determine if they have specific requirements. The following is a guideline of suggested styles and some details for preparing for final submission to the Electronic Thesis and Dissertation database (ETD).

The most common formats for a dissertation or thesis will follow one of 2 styles:

Style 1: (more common for theses)

Literature Review  
Materials and Methods  
Results  
Discussion  
Conclusion  
References

Style 2: (more common for dissertations)

Literature Review  
Paper 1  
Paper 2  
Etc  
Conclusions

### Literature Review

The purpose of the literature review is to both demonstrate that the student has read a breadth of literature relevant to the dissertation topic and to introduce the topic, the pertinent background, and most importantly to present the gaps in our current knowledge that lead to the hypothesis that was tested as part of the thesis or dissertation research. There are no strong guidelines for length of the literature review and the student should discuss expectations with both his/her advisor and advisory committee.

The literature review should not just catalog facts and previous studies but rather should be an in depth critique of these. Avoiding referring to specific authors in the sentence structure is the best way to keep the writing focused on the knowledge to be presented rather than just listing relevant studies. Likewise, in writing the literature review, the student should already have read the relevant literature and should write from their knowledge base and then go back and reference the material appropriately. This technique also helps to guard against inadvertent plagiarism of material from individual papers and reports.

Figures in this section should be to illustrate general concepts. Use of figures from specific papers representing data from that paper should be avoided. A cartoon or figure illustrating the hypothesis to be tested or the model for the work to follow can be very useful to add clarity to the document.

References for this section should reflect the original report for that piece of knowledge and not be a secondary review. If style 2 is being used, the references for this section should appear at the end of this chapter as opposed to at the end of the final document.

## **Materials and Methods**

If using style 1, the second chapter is the experimental details for the subsequent sections. This should be written in sufficient detail to allow a reader to repeat the experiments. In general, this section should be in more detail than one would find in a publication so it can be a resource for subsequent researchers to repeat or extend the findings in the thesis or dissertation. If style 2 is used, materials and methods are included in each separate chapter. If more detail is required on a specific technique, this can be added to an appendix.

## **Results and Discussion**

In style 1, the presentation of the results and subsequent discussion would follow the format of a manuscript. Figures and table appear close to where they are cited in the document. All figures and tables should have legends.

## **Papers as chapters**

When the work of the thesis or dissertation has been published or is being prepared for submission, it is allowable to simply insert the completed or published paper as a separate chapter. It need not be rewritten. If there are multiple authors, the student should indicate what his/her contribution was to the paper. In general, the student should be a first author on these papers or have contributed significantly to the development of the hypothesis and the execution of the experiments. Papers in which the student has contributed only a single figure, should be avoided.

## **Conclusion**

This section provides a final summary of the work and is particularly important when style 2 is used. This section need not be long but should integrate the various chapters and provide future directions for the work.

## **References**

The style for citations is up to the program, discipline, and/or advisor. In general, a style that includes all authors and titles of the papers is most useful for later reference.

## **Acknowledgements (optional)**

A section at the beginning of the document to acknowledge the help of others in completing the work is a nice tradition but not required. This section can be personal but should remain professional.

## Appendix (optional)

Some advisors like the student to summarize unpublished or orphan results in the appendix. This is optional and is generally for the convenience of the laboratory as well as documenting the work done by the student.

### Special notes for depositing with ETD

1. If the student is reprinting papers that are already published, he/she needs to get permission from the journal to do so. Some journals have explicit statements to this effect on the website near the Guide to Authors. For other journals, this will require a letter to the editor of the journal. Permission to reprint is nearly always provided but may take some time to receive. Do not wait until the last minute to secure this information. Evidence of permission can be included in an appendix.
2. Follow the directions on the ETD site precisely. The formatting for the title pages is very specific and the inclusion of the student's CV is required.
3. Copyright. The ETD directions provide information on copyrighting the document. The following is designed to add some clarity to these directions. In general, any unique writing is protected by common law copyright of that work. Publications included in the work are already copyrighted and the copyright is owned by the journal. For most students, this will be sufficient protection. If some of the work is unpublished and will not be published, the student may in consultation with his/her advisor choose to secure additional copyright protection and will need to pay the associated fee for this copyright. If the work is a chapter that will be submitted in the near future, the student may choose to embargo the thesis or dissertation until the work can be published or a patent obtained. An embargo delays the release of the dissertation for view by others for a selected period of time.

## How to set up a Dissertation (PhD) Advisory Committee:

1. All HSC PhD programs currently require a minimum of 5 members. These members should be able to help the student and you crucially evaluate their research and the student's progress toward the degree. Discourage the student from adding more people formally to the committee as it will be too hard to schedule meetings. You can have him/her to invite faculty with specific expertise to individual meetings to help with the review of the data.
2. The majority must be have full graduate faculty membership – the list can be found here for HSC faculty:  
<http://www.hsc.wvu.edu/resoff/graduate-education/faculty-resources/graduate-faculty-status/>  
and here for all WVU faculty (although this list is not yet complete):  
<http://graduate.wvu.edu/faculty-staff/graduate-faculty-information/list-of-members>
3. The graduate faculty status that a faculty member has in his/her home department is honored for committee service throughout the University (i.e., the faculty member does not need to be reapproved by HSC).
4. One member must be from a program outside of the student's program. This helps the student learn to speak to a mixed audience.
5. One member can be from another University provided he/she is an active scientist.
6. Chair of the committee must have full graduate faculty. Committees can have co-chairs and only one of the co-chairs must have full graduate faculty status. The presence of the advisor on the committee and as chair varies by program. Consult your program handbook for these details.
7. After the committee is formed, if a member's status is downgraded, the student does not need to change the composition of the committee.
8. All committees must be approved by the program director, dean of the school (or designee) and the Assistant Vice President for Graduate Education at the HSC. Additions and removals to the committee must be approved by the member being added or deleted, and the program director, dean, and Assistant Vice President for Graduate education.

### Special note for mentors at NIOSH:

- NIOSH investigators cannot have full graduate faculty status because they are not full time WVU employees (adjunct does not count).
- A NIOSH mentor can be the primary advisor/mentor of a student and can be a co-chair of your committee, if allowed by that program (see point 6 above).
- Be careful when adding additional investigators from NIOSH to a committee so that the metrics in point 2 above are still met. Use the ad hoc method to include additional expertise at meetings.