

Clinical & Translational Science Doctoral Program

Student Handbook

WVU Robert C. Byrd Health Sciences Center
School of Medicine

August 2020

A. GENERAL INFORMATION

In addition to the general policies and procedures set forth by the Office of Research & Graduate Education at the West Virginia University Health Sciences Center, the Clinical and Translational Sciences Doctoral Program has adopted specific requirements for its Doctor of Philosophy degree. To fulfill the requirements necessary for completion of a Doctor of Philosophy in Clinical and Translational Sciences, a student must:

- successfully complete the required course work and Comprehensive Examination
- pass the Candidacy Examination (both the oral and research proposal defense)
- have at least one (1) first-author manuscript (based on his/her dissertation research) that is published or accepted for publication in a peer-reviewed journal
- complete a written dissertation based on his/her laboratory work
- pass the defense of his/her dissertation research

B. HONOR CODE

All academic and research activities by members of the Clinical and Translational Sciences Doctoral Program will be conducted as described by [West Virginia University Policy](http://graduateeducation.wvu.edu/policies_and_guidelines) (http://graduateeducation.wvu.edu/policies_and_guidelines) and the Clinical and Translational Sciences Program Honor Code. This Honor Code is based upon a spirit of trust and intellectual honesty, manifesting itself as a foundation of standards shared amongst all of its members. It is designed to convey the importance and meaning of intellectual honesty, as well as provide a structure that allows students to maintain these values. One should be aware that this Honor Code relies on the belief that each student appreciates the trust placed in him/her and maintains the highest principles of the discipline.

Actions that should be considered violations include, but are not limited to: cheating on class examinations; plagiarism; intentional misrepresentation of information on official documents; intentional misrepresentation of research data; and any intentional behavior that is potentially dangerous to others, or acts performed with malicious intent within the university academic and research setting. Violations are confined to acts directly pertaining to academic and research activities; personal affairs unrelated to the university are not considered. If an individual fails to uphold these high standards, it reflects poorly on the individual, the Clinical and Translational Sciences Doctoral Program, and the profession as a whole. Therefore, it is the responsibility of the student to make a conscious effort to comply with all provisions set forth in this document. However, if an infraction does occur, it is the duty of all students and Faculty of the Clinical and Translational Sciences Doctoral Program to report any misconduct to the Graduate Director and to demand just reconciliation to insure that the infraction will not be repeated. The Graduate Director and the Scholarship Committee will enforce the Honor Code and provide a fair hearing for each individual.

C. PROGRAM DESCRIPTION

This degree program was developed in response to the fundamental changes taking place in biomedical science research and education worldwide, with an increasing and stronger emphasis on interdisciplinary research to improve clinical care and population health outcomes. Achieving this requires much closer collaboration, integration, and alignment of basic, clinical and population sciences. Consistent with this increasingly integrative and interdisciplinary paradigm for clinical and translational science, all aspects of this degree program, including didactic coursework and research experiences, will emphasize the integration of basic, population, and clinical sciences.

This program is most suitable for students:

- Who have already completed graduate work (at the master or doctoral level)
- Medical students in the MD/PhD program
- Practicing clinicians
- Other biomedical professionals seeking expertise in and preparation for careers in clinical and translational research (e.g. Doctoral programs for Physical Therapy, Pharmacy, etc.).
- Students with undergraduate degree (preferably with some research or allied health work experience).

This program is intended for full-time students only. Student receiving institutionally-supported stipends are expected to devote full-time effort to their studies and research and should not be employed elsewhere. Any exceptions must be approved by CTS Program Director in advance.

Program Objectives

The goal for this program is to develop biomedical researchers who can integrate findings, information, and observations across basic, population, and clinical sciences, to accelerate and transform how we improve the health of individuals and populations.

Educational Objectives

By the completion of this degree, students will be able to:

1. Design, implement, conduct, analyze and interpret research projects using the techniques unique to basic science, clinical research, and population science research
2. Demonstrate mastery of research in a focused area as evidenced by academic and scientific presentations and publications
3. Read, understand and critique the scientific literature of the basic, clinical, and population sciences
4. Work effectively with and create collaborative, productive research partnerships with clinicians, population scientists, and basic / laboratory scientists
5. Be able to communicate with and understand the research challenges and perspectives of each of the three branches of clinical and translational science (basic, clinical, and population sciences)
6. Work with communities to translate scientific findings into programs and policies that improve the health of individuals and populations.

Program Features

This is an 86 CrHr degree program, with credit hours distributed between didactic coursework, translational research experiences, and dissertation research. Core (required) and elective (pending director and/or dissertation committee approval) coursework is organized around the three main branches of clinical and translational science:

1. Basic / Laboratory Science
2. Population Science
3. Clinical Science

CTS Research Experiences are organized around the three translational research domains:

1. T1 research expedites the movement between basic research and patient-oriented research that leads to new or improved scientific understanding or standards of care
2. T2 research facilitates the movement between patient-oriented research and population-based research that leads to better patient outcomes, the implementation of best practices, and improved health status in communities
3. T3 research promotes interaction between laboratory-based research and population-based research to stimulate a robust scientific understanding of human health and disease

Key features of this program are:

CTS Core Courses: All students in this degree program will complete 16 CrHr of clinical and translational core courses (CTS Core), distributed approximately equally amongst each of the three branches identified above.

Elective Courses: All students, will complete 12 credits of elective courses (with a minimum of 9 from the Core Electives list) with the guidance and approval of their Dissertation Committee. These courses are designed to allow students to develop their own area of expertise and interest, and to prepare to successfully engage in dissertation research.

CTS Research Experiences: Students must successfully complete 12 CrHr of research experiences (similar to a research rotation) in each of T1, T2, and T3 research, before commencing their dissertation research. Students must complete a minimum of 4 CrHr in each of the three research domains (T1, T2, T3); while this will typically be completed as 3-4CrHr rotations, the credit hours can be distributed in any configuration according to student needs. (Note: 60 contact hours is the approximate equivalent of 1 CTS Research Experience credit hour.)

CTS Research Journal Club: Students must complete a minimum of 6 CrHr, 1 CrHr in 6 different semesters, in a journal club specific to this program. Participation in the CTS Research Journal Club is required for every semester the student is in residence.

Comprehensive and Candidacy Examinations: Students will complete a Comprehensive Exam after completion of all didactic coursework. This examination will assess knowledge foundational to clinical and translational science as well as content, methodologic knowledge, and research expertise in the identified area of focus (specialization). The Candidacy Exam will be the defense of the dissertation research proposal.

Dissertation Committee: Students will have an interdisciplinary Dissertation Committee. This committee will have a minimum of five members representing at least two of the three different branches of clinical and translational science. At least one member of the committee must be a clinician. The primary mentor, also the committee chair, must be a member of WVU Graduate Faculty. One of the five members must be an External member.

Dissertation Research: Students will complete a minimum of 40 CrHr of dissertation research, corresponding to 6 full-time semesters of dissertation research.

Peer-Reviewed Publication: Consistent with existing standards at the Health Sciences Center, all students in this program must have one first-authored, peer-reviewed, original research publication relevant to their dissertation research accepted for publication ("in press") before they may defend their dissertation.

D. ADMISSION AND PERFORMANCE STANDARDS

The minimum requirements for admission consideration to this program are as follows:

1. Completed undergraduate degree with a cumulative GPA of 3.0 or higher
2. GRE score of 300 (total; minimum of 150 verbal and 150 quantitative) or MCAT of 28 (total). In the instances where the applicant is a clinician, successful completion of the USMLE Step 1 and Step 2 board exams may be accepted *in lieu* of the GRE or MCAT scores.
3. TOEFL score where applicable (minimum score requirement depends upon the test taken; standards established by the WVU Office of Admissions, International Graduate Students)
4. Significant undergraduate coursework in the physical or biological sciences is strongly recommended (1 year of biology, 1 year of math, 1 year of chemistry, and 1 year of social sciences) as is research experience

Students must submit an application that includes:

1. A personal statement that addresses their desire to complete a doctoral program in clinical and translational science, a career in biomedical research, and how their background, including their research experiences, have prepared them for this doctoral program
2. A résumé or CV that indicates relevant experience and the years and location (institution) of completion of undergraduate degrees and any graduate or professional coursework or degrees
3. Three letters of recommendation from professional and / or academic referees, in which the referees clarify how long and in what capacity they have known the applicant and their assessment of the student's likelihood of success in doctoral-level work

Applications to this program will be reviewed by the CTS Admissions Committee. Offers of admission will be made based on recommendations from this committee. This will be a competitive process. As such, meeting the minimum admission requirements does not assure acceptance to this program.

Academic and Professional Standards

1. An overall grade point average of 3.0 in graduate level coursework. Note that this is higher than the university standard of 2.75.
2. Removal of any incomplete grades within one semester or summer session of their award, unless special permission is granted by the Assistant Vice President for Research. Failure to remove an incomplete within one semester results in a permanent F on your transcript and this F figures into the GPA.
3. Satisfactory written comments describing the student's performance in short rotations.
4. Failure to comply with these standards will result in the student being placed on academic probation and may result in dismissal from the graduate program.

NOTE: You cannot graduate with a D or F grade on your Plan of Study. You must retake the course and improve the grade to graduate. Both grades will count toward your GPA on your transcript, and the higher grade will be placed in the Plan of Study.

All students will uphold the WVU Student Conduct and Discipline Policy. This code can be found at:

http://campuslife.wvu.edu/office_of_student_conduct

E. PROGRAM REQUIREMENTS

The following are the requirements for the successful completion of this PhD program:

CTS Orientation Program

All entering students must complete a CTS Orientation Program. During this program, students will be oriented to WVU, the HSC, and the CTS PhD Program, including the structure, requirements, and expectations for the program. Additionally, students will complete all certifications and accreditations needed to work in basic or clinical science laboratories and in clinical and population research (e.g., laboratory animal care and use certifications, chemical hygiene, IRB etc.). Students will also meet and have brief presentations from active WVU/WV-CTSI clinical and translational researchers. Students must complete this during their first semester of study.

Required Coursework

CTS Core Courses (16 CrHr)

- BMS700 Scientific Integrity (1 CrHr)
- BMS720 Scientific Writing (2 CrHr)
- CTS700 Fundamentals of Clinical and Translational Science (3 CrHr)
- PSIO750 Graduate Physiology and Pharmacology I (3 CrHr)
- BIOC531 General Biochemistry (4 CrHr)
- 500-level or higher Statistical Methods Course (3 CrHr)

Elective Courses (12 CrHr)

Students will complete an additional 12 CrHr of didactic coursework as Elective course. A minimum of the 9 (of the 12 credits required) must be selected from the Core Elective List.

Core Elective List:

- EPID601 Public Health Epidemiology (3 CrHr)
- EPID611 Adv. Epidemiology Theory and Application (2 CrHr)
- EPID625 Principles of Clinical Trials (3 CrHr)
- PHAR757 Patient Reported Outcomes (3 CrHr)
- PHAR758 Ethical and Regulatory Aspects of Clinical Research (2 CrHr)
- PUBH662 Clinical Research Methods (3 CrHr)

Selection of Core and Additional Electives (for a total 12 CrHr) should be made in consultation with the Program Director and/or guidance of the Dissertation Committee. Selected Elective Courses should include 2 of three branches of clinical and translational science. These courses are intended to allow the students to develop expertise and focus in an area of interest, and to prepare students to be able to successfully complete their dissertation research. These courses may also serve as the basis for a portion of the Comprehensive Exam (discussed in additional detail below). If recommended by the Dissertation Committee, a student may replace these courses with additional research hours when appropriate.

For students who have successfully completed graduate-level coursework at the master, doctoral, or professional (clinical) level: these students will be evaluated on a case-by-case basis and some of the CTS Core Courses may be waived with demonstrable evidence that students have successfully completed equivalent coursework and that waiving that curriculum component will not jeopardize the student's ability to successfully complete the remainder of the program (comprehensive and candidacy examinations, dissertation). Typically, no more than 50% of the required coursework will be waived; exceptions may be made in rare circumstances. Completion of CTS Research Experiences, CTS Research Journal Club, the dissertation, and the peer-reviewed manuscript requirements will not be waived. A student requesting waiving of coursework must follow all appropriate WVU and HSC policies for doing so; ideally, all final decisions on coursework to be waived will be made prior to the submission of the Plan of Study.

Interdisciplinary Dissertation Committee

Students will establish an interdisciplinary Dissertation Committee, to be a minimum of five members of faculty who must represent at least two of the different branches of clinical and translational science, early in their doctoral program (no later than the end of the third semester). The Dissertation Committee will have substantial involvement in guiding student development and educational experiences, including the selection of Elective Courses, CTS Research Experiences that address T1, T2, and T3 research, and the development of a translational research dissertation project. From amongst this Dissertation Committee, a primary mentor will be identified who must be a member of WVU Graduate Faculty. The Dissertation Committee, in addition to guiding and advising students, will be responsible for examining students on their Candidacy Exam and defense of their dissertation. At least one clinician must be part of the Dissertation Committee. Committees must conform to University policy:

http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree_regulations/#committeestext.

It is an expectation that the primary mentor, either solely or in combination with other members of the Dissertation Committee, will be responsible for funding the student's stipend and operational (research-associated costs) after the first two years of study.

CTS780 Research Experiences (12 CrHr)

Students are required to complete 12 CrHr of CTS Research Experiences, 4 CrHr in each of the three translational research domains identified above (T1, T2, T3). Thus, all students must participate in all types of translational research. It is intended that students begin participating in research experiences during their first semester and, while these research experiences will typically be completed as 3-4CrHr rotations, the credit hours can be distributed in any configuration according to student needs. As guidance, 60 contact hours is the approximate equivalent of 1 CTS Research Experience credit hour. To ensure a breadth of experiences, at least one CTS Research Experience should be with a member of faculty outside the dissertation committee.

Students are expected to (must) be directly involved in the research activities of their CTS Research Experience (i.e., these are not observational or "shadow" experiences) and, further, present the results from portions, sub-projects and / or summaries of these experiences at internal and external forums when available (e.g., Van Liere Research Day). Students must submit a written summary of each research experience to the program's Scholarship Committee (this committee is described in detail below, in section 3.3 "Faculty Instructional Requirements") no longer than 4 weeks after the completion of the research experience. Student performance in these research experiences will be graded in the normal mode, which will be determined as a combination of evaluation by the preceptor / supervisor for the research experience, and the assessment of the written summary by the Scholarship Committee.

CTS707 Research Journal Club (6 CrHr)

Students are required to complete a minimum of 6 CrHr of the CTS Research Journal Club, and are required to register and participate in CTS Research Journal Club every semester in which they are in residence (so it is expected that most students will likely accrue more the minimum number of credits). Journal clubs are valuable forums for student-to-student learning and provide opportunities for professional development and peer collaboration. Student performance in each journal club will be graded in the normal mode, which will be determined based upon student participation in discussion, presentation of articles, presentation and discussion of research, and other activities.

Comprehensive and Candidacy Examinations

Comprehensive Exam

All students will complete a comprehensive (qualifying) exam after the completion of most of the didactic coursework; this will generally fall at the end of year 1 or 2 depending on the student's background prior to entering the program. This exam will be administered by the program's Examination Committee. The comprehensive examination will have up to two components: a written component and, as deemed necessary by the Examination Committee, an oral component.

For all students, the written component will be conducted over three consecutive days, one day for each of basic / laboratory science, clinical science, and population science. Students will be given two questions on each day and have a total of 8 hours in which to complete and submit responses to the assigned questions. It is the intention that the written portion of the exam be conducted in a monitored setting. The oral component of the exam, for those students required

to complete this component, will take place no sooner than the second full day but no later than the fifth full day after the completion of the written component (with exceptions allowed for extraordinary circumstances only). The oral component will be a combination of discussion with and questioning from the Examination Committee regarding answers submitted on the written component (i.e., there is not a formal presentation from students). It is anticipated that this oral component will require no more than 2 hours.

For each of the three days of the written portion of the exam, students will be assigned two questions. The first question will focus on and assess the acquisition of foundational knowledge and expertise in that core discipline of clinical and translational science (basic / laboratory, clinical, and population sciences). These questions will be drawn from a common set of questions about the core disciplines. The second question will be more of applied nature that will focus on the students ability to interpret, analyze and/or critique a problem (e.g. case study, article, dataset, etc.). The Examination Committee may consult the student's Dissertation Committee to develop these questions and / or identify appropriate case studies / articles. Students who have already successfully completed Step 1 and Step 2 of the USMLE exams (MD/PhD students, clinicians) will be excused from the basic / laboratory science component of this exam.

Student responses to all questions will be graded separately and individually by each member of the Examination Committee. Students must achieve a minimum of a "B" on each individual question. For student's whose written responses to questions are considered marginal or need clarification, the Examination Committee will request an oral examination, at which time students will have the opportunity to clarify their responses and demonstrate mastery on the examination topics.

Students whose cumulative, overall performance on the Comprehensive Examination is deemed not satisfactory by the Examination Committee may be allowed to repeat this exam once, within no longer than 6 calendar months, at the discretion of the Examination Committee and in consultation with the Program Director. Students who, after their second attempt, do not achieve the required performance standards will be immediately dismissed from the program.

For students matriculating into this program with previous graduate-level coursework and for whom some CTS Core Courses have been waived, it is a requirement that this exam be successfully completed no later than the end of the student's second calendar year in the program. For students matriculating to this program directly from an undergraduate degree, it is a requirement that this exam be successfully completed no later than the end of the student's third calendar year in the program. Students who do not meet this performance requirement will be dismissed from the program, with exceptions allowed for extraordinary circumstances only.

Candidacy Exam

The candidacy exam for this program will have three components: a written proposal for the dissertation research project; an oral defense of that proposal; and a written articulation of how the dissertation research project will incorporate the different branches and domains of clinical and translational research.

The written proposal for the dissertation research project will be in the form of a pre-doctoral fellowship grant (specifically, that required by the NIH F30/F31 Ruth L. Kirschstein NRSA Individual Fellowship Program). All students are expected to apply for a pre-doctoral fellowship from NIH or another, similar extramural research foundation. The written portion of the application is to be submitted to the student's Dissertation Committee following NIH formatting requirements for the F30/F31 program (above) regardless of the extramural foundation to which the application will eventually be submitted. After submission to the Dissertation Committee, the student will orally present and defend their proposal to the Dissertation Committee. For students whose performance on either the written proposal or the oral presentation is not deemed satisfactory by the Dissertation Committee, students may be allowed to re-submit and / or re-defend their proposal once within no longer than 3 calendar months, at the discretion of the Dissertation Committee and in consultation with the Program Director. Students must be able to achieve an acceptable level of performance on both the written and oral components or they will be dismissed from the program.

The final component of the Candidacy Exam, a written articulation of how the dissertation will incorporate the different branches and domains of clinical and translational research, is to be submitted, along with the full, written proposal, to the Program Director and the student's Dissertation Committee. The Program Director will review the submission and

then accept, or not, the dissertation research proposal. This is not intended as a review of the caliber of the proposed science *per se* or as an interference with intellectual property or academic freedom of the student, the student's primary mentor, or the Dissertation Committee. This requirement is simply a "check and balance" review to assure that dissertation research projects are sufficiently translational in both depth and breadth so as to ensure that each student will achieve the program's educational objectives and, ultimately, that the program will achieve its objectives, for which the Program Director is both responsible and accountable. In cases where the Program Director does not accept the dissertation research proposal, it is expected that feedback and recommendations will be provided to the student and Dissertation Committee with the intent that the proposed dissertation research and dissertation proposal is to be revised.

For all students, it is a requirement that the Candidacy Exam be successfully completed no later more than 12 calendar months after the successful completion of the Comprehensive Exam or no later than June 30 of their third year in graduate school, whichever comes first. Students who do not meet this performance requirement will be dismissed from the program, with exceptions allowed for extraordinary circumstances only. Request for extension of this time but be made in writing to the director of the graduate program.

CTS797 Research (40 CrHr)

Students must complete a minimum of 38 CrHr of dissertation research. It is anticipated that students will complete this over the course of 5-6 full-time semesters after the successful completion of their Candidacy Exam. A student must be engaged in full-time dissertation research for no fewer than three semesters.

Peer-Reviewed Publications

Consistent with existing standards at the WVU Health Sciences Center, all students in this program must have one first-authored, peer-reviewed, original research publication relevant to their dissertation research accepted for publication ("in press") before they may defend their dissertation. This manuscript must represent original research; a review article, even a systematic review, will not fulfill this requirement.

F. DISSERTATION AND DISSERTATION DEFENSE

Preparation of the dissertation and scheduling of the dissertation defense is done in close collaboration with the Dissertation Committee. The student, with the support of the Dissertation Committee, may elect to prepare a traditionally formatted dissertation or a "paper-based" dissertation.

External Examiner

Each student must have an External Examiner for his or her Final Dissertation Defense. The External Examiner is an expert in the dissertation content who is not affiliated with West Virginia University, but is appointed as a voting member of the Final Examination committee only. Ideally, this individual participates in the final examination in person. However, if he/she cannot be present in person, it is permissible to arrange participation and evaluation by alternate means.

The External Examiner must have an established reputation in the area of the dissertation research, and must be able to judge objectively whether the dissertation would be acceptable at a university with a respected doctoral program in the same or similar field. As a general guideline, an External Examiner should hold full or associate professor rank at an institution of higher learning. Every attempt should be made to avoid any conflict of interest with the student or major advisor. Examples of conflicts of interest to try to avoid are research collaborator, co-author, employer, former student, former research supervisor, and the like. If these or similar relationships exist, they should be disclosed in writing to the Graduate Director.

Checklist for Graduation

The research office has a checklist for graduation for both MS and PhD students. Please refer to this. It can be found:
<http://www.hsc.wvu.edu/resoff/graduate-education/policies-and-forms/forms/>

Application to graduate and shuttle sheet

In addition to being registered for at least 1 credit during the semester in which you graduate, the [Application for Graduation and Diploma Form](#) and the required fee should be submitted to the Office of Research and Graduate Education within the first two (2) weeks of the semester the student plans to graduate. If the degree is not actually earned during

that term, the student must notify the Office of Research and Graduate Education and submit a new Form (without the additional fee) when registering for the term in which completion is again anticipated. The Office of Research and Graduate Education is responsible for maintaining all of the records necessary to certify for graduation. The Graduate Director must be informed of the student's departure date. The membership of the Dissertation Committee cannot be modified for the Final Examination unless under extenuating circumstances and approval by the Graduate Director and Graduate Affairs Committee is granted.

Three (3) weeks prior to the date of the Final Examination (Dissertation Defense), Doctoral Candidates, along with their Advisor must complete and have all of the Dissertation Committee members sign a [Shuttle Sheet Request Form](#) and submit it to the Graduate Director. Students must be registered during the semester he/she is to graduate. **No examinations are to be given without all Dissertation Committee members present.** A student is required to have at least one first-author manuscript based on his/her dissertation research that is published or accepted for publication in a peer-reviewed journal before the Final Exam can be scheduled.

Final examination (Dissertation Defense)

A copy of the Dissertation to be defended must be provided to the Dissertation Committee a minimum of two (2) weeks prior to the date of the Final Examination. The student's Dissertation Committee is responsible for approval of the Dissertation. Upon completion of the written Dissertation, the student's Advisor will inform the Graduate Director in writing (no later than two (2) weeks prior to the Final Examination) of the date, time and location of the Final Examination. The Final Examination is comprised of a public seminar, followed by an oral examination conducted by the student's Dissertation Committee and External Examiner. The student will receive a grade of PASS or FAIL (see [Dissertation Signature Approval Page-SAMPLE](#) and [ETD Signature Form](#)). To receive a grade of PASS, at least eighty percent (80%) of the members of the Dissertation Committee must vote to PASS. The student will be notified immediately of the outcome. If less than 80% of the members of the Dissertation Committee vote for a PASS, the student will be assigned a grade of FAIL. Should this be the case, he/she will be dismissed from the Program and will be informed of this in writing by the Graduate Director.

Submission of the approved dissertation

Upon receiving a PASS on the Final Examination, it is the responsibility of the student to prepare and submit final copies of the Dissertation to the appropriate West Virginia University personnel for final approval. Currently, West Virginia University requires the electronic submission of all dissertations (ETD's). See [WVU Guide to the Preparation of Dissertations](#) (<http://www.libraries.wvu.edu/theses/>) for one-stop-shopping information regarding electronic submission of ETD's. In addition, consultants in the West Virginia University computer centers are prepared to help students and faculty in the process of preparing their ETD.

G. PROGRAM ADMINISTRATION

This doctoral program is based within the School of Medicine and is administratively housed within the HSC Office of Research and Graduate Education.

Financial Support

Students in this program will be supported similarly to students in other doctoral (PhD) programs in the School of Medicine. Full tuition waivers will be provided from institutional funds for five years; continuation of tuition waivers beyond five years will be evaluated on a case-by-case basis. Additionally, most students are provided, also from institutional funds, stipends for the first two years of their doctoral program. It is the intent and expectation that student stipend support, beginning in the third year and beyond, will be provided by the primary mentor and / or members of the Dissertation Committee. Institutional stipend support and tuition waivers may be withdrawn if the student does not maintain a good academic standing (see [Academic and Professional Standards](#), page 4).

Additionally, MD/PhD students are free to select this program for the PhD component of their program. As funding for and administration of the MD/PhD program is somewhat separate, we differentiate between these two student pools here. Although these students are also expected to pursue external support for their stipend as is appropriate.

Program Committees

Admissions Committee: This committee will be comprised of one representative from each of the WVU HSC Interdisciplinary Research Centers (Center for Cancer Cell Biology, Center for Cardiovascular and Respiratory Sciences, Center for Neuroscience, and the WV Stroke Center), the WV-CTSI, and the WVU HSC Office of Research and Graduate Education; additional faculty and / or student representatives may also be included.

Scholarship Committee: This committee will have three key functions within the program. First, members of the Scholarship Committee will serve in a mentoring role for students during their first year of study in the time before students have identified their primary mentor and / or Dissertation Committee. Thus, the Scholarship Committee may assist first year students in identifying CTS Research Experiences and / or Elective Courses. Second, the Scholarship Committee will be responsible for evaluating (and grading) written summaries of CTS Research Experiences submitted by students. Third, the Scholarship Committee will be responsible for evaluating all students in the program, on an annual basis, for their academic performance and progress (described below).

Examination Committee: As described above, this Committee will be responsible for administering the Comprehensive Exam. The Comprehensive Exam will be standardized in format and approach and the same committee will administer the exam to all students sitting for their exam during that time period.

Mentoring and Dissertation Committees: It is required that the Dissertation Committee consist a minimum of five members of faculty who must represent at least two of the different branches of clinical and translational science, include at least one clinician, and that the primary mentor and Committee chair be a member of WVU Graduate Faculty. Further, the Dissertation Committee must be established no later than the end of the student's third semester. This Dissertation Committee, and in particular the primary mentor, will have substantial involvement in guiding student development and educational experiences, including the selection of Elective Courses, CTS Research Experiences that address T1, T2, and T3 research, and the development of a translational research dissertation project. The Dissertation Committee, in addition to guiding and advising students, will be responsible for examining students on their Candidacy Examination and defense of their dissertation.

H. EVALUATION PROCEDURES

Year 1

During the CTS Orientation Program, students will complete an Individual Development Plan (IDP, Science Careers), which will be reviewed during orientation then annually by the Scholarship Committee. This plan provides resources to help evaluate skills and interests in scientific knowledge, research skills, communication (writing and speaking), professionalism, management and leadership, responsible conduct of research, and career advancement. This plan helps to inform the student choices in electives and research. The IDP must be re-visited annually and documentation of that filed with the office of research and graduate education.

Academic performance during Year 1 will be assessed via GPA and their performance in CTS Research Experiences. This evaluation is conducted by the Scholarship Committee and in consultation with the Program Director and the primary mentor / Dissertation Committee (starting in the second year after the Dissertation Committee has been identified). To be considered in good academic standing, Health Sciences' students must maintain a 3.0 GPA and excel in research activities, as determined by the evaluation process for the CTS Research Experiences as previously described. On an annual basis, each student will complete a written evaluation/survey or course material, instructors, and research experiences, which will include questions about suggestions for improvement. Similarly, the Scholarship Committee will provide written summaries on their perception of the strengths and areas recommended for improvement and additional learning experience for each student.

Year 2 and Beyond

In Year 2 and beyond, student assessment will consist of evaluation of academic performance and timely progression towards key program milestones (Comprehensive Examination, Candidacy Exam, peer-reviewed publication, dissertation defense). Academic performance will be evaluated as in Year 1, described above. Progression towards key program milestones will be monitored by the Scholarship Committee and Dissertation Committee. An annual, written evaluation will be provided to students. Successful completion of the Comprehensive Exam and the Candidacy Exam represent

intensive and focused evaluation of students. Students will ultimately be assessed based on the successful defense of their dissertation and peer-reviewed publications.

I. APPEALS

A student has the right to appeal any decision by the Graduate Director and/or Graduate Affairs Committee. If a student feels the Graduate Director and/or Graduate Affairs Committee decision is biased or inappropriate, the student can appeal the decision to the WVU School of Medicine Assistant Vice-President for Graduate Education. At this time, the Assistant Vice-President will make a decision. A student who wishes to appeal the decision of the Assistant Vice-President must follow West Virginia University Grievance Procedures.

APPENDICES: ELECTIVE COURSES & SAMPLE CURRICULA

- A. Sample of Elective Courses: Cardiovascular
- B. Sample of Elective Courses: Cancer
- C. Sample of Elective Courses: Neuroscience
- D. Sample Curriculum & Course Sequencing: Students matriculating into the program with an undergraduate degree
- E. Sample Curriculum & Course Sequencing: MD/PhD students
- F. Sample Curriculum & Course Sequencing: Students matriculating into the program with a Graduate Certificate in Clinical and Translational Science (WVU), with and without being a practicing clinician
- G. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Clinical and Translational Science (WVU), with and without being a practicing clinician
- H. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Health Sciences (WVU)
- I. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Biomedical Sciences (WVU)
- J. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MPH in Epidemiology (WVU)
- K. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Exercise Physiology (WVU)

[Comment: per previous discussion, typically no more than 50% of CTS Core or Elective Courses will be waived. Elective Courses must include 2 of three translational research domains. All sample curricula assume full-time study. Course distribution is suggested only; the total duration of study may be shortened if credit hours per semester are increased.]

A. Sample of Elective Courses: Cardiovascular

PSIO 743. Fundamentals of Physiology. 3 Hours (of 5 Hours). PR: College physics, algebra, chemistry, and consent. (For dental students and a limited number of full-time graduate students.) Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control.

OR

EXPH 787. Cardiopulmonary Physiology. 3 Hours. An advanced survey of important concepts involved in cardiovascular/ cardiopulmonary physiology and pathophysiology. The main focus will be on understanding the changes to cardiovascular/pulmonary system brought about by physiological stimuli such as exercise, aging, and disease states.

PSIO 791A-Z. Advanced Topics. 3 Hours. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PSIO 793A-Z. Special Topics. 3 Hours. A study of contemporary topics selected from recent developments in the field.

EXPH 680. Adv Clincl Exercise Physiolg. 3 Hours. PR: Graduate Standing. Presentation of scientific techniques utilized by clinical exercise physiologists to assess fitness in healthy and disease populations. This course will refine clinical competencies needed to safely administering various fitness assessments in clinical populations in which the risk of untoward events increases.

EPID 761. Cardiovascular Epidemiology. 3 Hours. PR: EPID 710. An in-depth introduction to epidemiological methods in studying cardiovascular disease and related conditions, including diabetes, hypertension, chronic kidney disease, sleep-disordered breathing. In addition, "classical" as well as novel cardiovascular risk factors will be covered.

OR

EPID 766. Physical Activity Epidemiology. 3 Hours. PR: EPID 710. This course provides an in-depth examination of the epidemiology of physical activity. The course builds upon basic epidemiological methods and explores the relationship between physical activity and chronic diseases

B. Sample of Elective Courses: Cancer

BMS 730. Cancer Cell Biology. 3 Hours. This course emphasizes the cellular signals that direct tumor growth and invasive potential and explores how these same signals can be targeted for intervention to block tumor progression.

PCOL 761. Medical Pharmacology. 7 Hours. (For medical and selected graduate students in the medical sciences with instructor's consent) PR: Basic principles of drug action, mechanisms of therapeutic effects and undesirable effects. Emphasis on the classes of drugs currently used in medical practice. (**can this be outside of the normal sequence?**)

CCB 700. Select Topics - Cancer Cell Biology. 3 Hours. PR: BMS 730 or consent. This course is designed for upper level graduate students. An expansion of the concepts and mechanisms of cancer biology through review of selected topics including cellular signals and tumor microenvironment, as well as diagnostics and therapeutic strategies.

CCB 701. Biochemical/Oncogenic Signaling. 3 Hours. This advanced course is designed for upper level graduate students. It will focus on the biochemical and oncogenic mechanisms of cellular signaling. Students will explore the experimental methodologies needed to understand the scientific literature in biochemistry and cancer.

CCB 702. Cancer Pharmacol/Therapeutics. 3 Hours. PR: BMS 730 and PCOL 761 or consent. This course is designed for upper level graduate students. Course will focus on the pharmacologic, diagnostic, and therapeutic basis of cancer care including therapeutic strategies, drug resistance/design and clinical trials.

EPID 762. Cancer Epidemiology. 3 Hours. PR: EPID 710 or consent. This course is intended for students considering cancer epidemiology as a substantive focus. Providing students fundamental concepts and methodology in cancer epidemiology and reviewing current epidemiologic research in cancer from a variety of perspectives

C. Sample of Elective Courses: Neuroscience

CCMD 775. Neurobiology. 7 Hours. Instruction to basic structure and function of the human nervous system with a focus on clinical application of basic information. The course emphasizes the normal neurobiology (at the cell and systems levels) essential to understanding human behavior and to recognizing abnormality seen in clinical practice.

NEUR 791A-Z. Advanced Topics. 5 Hours. PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses

D. Sample Curriculum & Course Sequencing: Students matriculating into the program with an undergraduate degree

| | Sample Curriculum (Undergraduate-prepared Students) | | |
|---------------|---|--|--|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(3) BMS700 Scientific Integrity (1) PSIO750 Graduate Physiology and Pharmacology I (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BIOC531 General Biochemistry (4) BIOS601/602 or equivalent (3+1) CTS780 Research Experience (4) CTS707 Journal Club (1) | CTS780 Research Experience (4) [Dissertation Committee Selected] |
| Year 2 | PUBH662 Clinical Research Methods (3) PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) Elective Course (3) Research (2) CTS707 Journal Club (1) | EPID601 Pub Health Epi(3) PHAR757 Patient Reported Outcomes (3) Elective Course (3) Research (2) CTS707 Journal Club (1) | BMS720 Scientific Writing (2) Research (1) |
| Year 3 | Elective Course (6) Research (2) CTS707 Journal Club (1) [Comprehensive Exam] | Elective Course (3) Research (5) CTS707 Journal Club (1) [Candidacy Exam] | Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 5 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

E. Sample Curriculum & Course Sequencing: MD/PhD students

CCMD courses to be credited toward CTS Core Courses:

CCMD courses from M1 & M2 years (7 CrHr) for PSIO750 and BIOC531

CCMD courses to be credited toward Elective Courses:

6 CrHr from M1 & M2 years

| | Sample Curriculum (MD/PhD Students; PhD completed after M2 year) | | |
|----------------|--|---|--|
| | Fall | Spring | Summer |
| M1 Year | [Medical School Curriculum] | [Medical School Curriculum] | CTS780 Research Experience (6) |
| M2 Year | [Medical School Curriculum] | [Medical School Curriculum] | CTS780 Research Experience (6) |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(3) BMS700 Scientific Integrity (1) PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) PUBH662 Clinical Research Methods (3) Elective Course (3) CTS707 Journal Club (1) | BIOS601/602 or equivalent (3+1) EPIP601 Pub Health Epi(3) PHAR757 Patient Reported Outcomes (3) Elective Course (3) CTS707 Journal Club (1) | BMS720 Scientific Writing (2) Elective Course (3) CTS797 Research (1) [Dissertation Committee Selected] [Comprehensive Exam] |
| Year 2 | CTS797 Research (8) CTS707 Journal Club (1) [Candidacy Exam] | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (1) [Defense & Completion] |

F. Sample Curriculum & Course Sequencing: Students matriculating into the program with a Graduate Certificate in Clinical and Translational Science (WVU), with and without being a practicing clinician

Certificate courses to be credited toward CTS Core Courses:

BIOS 601/602 and EPID601 (for EPID611)

PSIO750 and BIOC531 (for practicing clinicians)

Certificate courses to be credited toward Elective Courses:

6 CrHr (SBHS660 and EPID625)

| | Sample Curriculum (CTS Graduate Certificate; Non-Clinician) | | |
|---------------|--|--|---|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS (3) BMS700 Scientific Integrity (1) PSIO750 Graduate Physiology and Pharmacology I (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BIOC531 General Biochemistry (4) PHAR757 Patient Reported Outcomes (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | CTS780 Research Experience (4) [Dissertation Committee Selected] |
| Year 2 | PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) PUBH662 Clinical Research Methods (3) Elective Course (6) CTS797 Research (2) CTS707 Journal Club (1) | Elective Course (3) CTS797 Research (5) CTS707 Journal Club (1) [Comprehensive Exam] | BMS720 Scientific Writing (2) CTS797 Research (1) [Candidacy Exam] |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

| | Sample Curriculum (CTS Graduate Certificate; Practicing Clinician) | | |
|---------------|---|---|---|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(3) BMS700 Scientific Integrity (1) PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) PUBH662 Clinical Research Methods (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | PHAR757 Patient Reported Outcomes (3) Elective Course (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BMS720 Scientific Writing (2) CTS780 Research Experience (1) [Dissertation Committee Selected] |
| Year 2 | Elective Course (6) CTS797 Research (2) CTS707 Journal Club (1) [Comprehensive Exam] | CTS797 Research (8) CTS707 Journal Club (1) [Candidacy Exam] | CTS797 Research (3) |
| Year 3 | CTS780 Research Experience (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) [Defense & Completion] | |

G. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Clinical and Translational Science (WVU), with and without being a practicing clinician

MS courses to be credited toward CTS Core Courses:

BIOS 601/602 and EPID601 (for EPID611)

BMS700 and BMS720 and PHAR758

PSIO750 and BIOC531 (for practicing clinicians)

MS courses to be credited toward Elective Courses:

6 CrHr

| Sample Curriculum (CTS MS; Non-Clinician) | | | |
|--|--|--|--|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(3) PSIO750 Graduate Physiology and Pharmacology I (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BIOC531 General Biochemistry (4) PHAR757 Patient Reported Outcomes (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | CTS780 Research Experience (4) [Dissertation Committee Selected] |
| Year 2 | Elective Course (6) PUBH662 Clinical Research Methods (3) CTS797 Research (2) CTS707 Journal Club (1) | Elective Course (3) CTS797 Research (5) CTS707 Journal Club (1) [Comprehensive Exam] | CTS797 Research (3) [Candidacy Exam] |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

| Sample Curriculum (CTS MS; Practicing Clinician) | | | |
|---|---|---|---|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(3) PUBH662 Clinical Research Methods (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | PHAR757 Patient Reported Outcomes (3) Elective Course (6) CTS780 Research Experience (4) CTS707 Journal Club (1) | Elective Course (3) CTS780 Research Experience (1) [Dissertation Committee Selected] [Comprehensive Exam] |
| Year 2 | CTS797 Research (8) CTS707 Journal Club (1) [Candidacy Exam] | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

H. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Health Sciences (WVU)

MS courses to be credited toward CTS Core Courses:

BIOS 601/602 and EPID601 (for EPID611)

PSIO743 (for PSIO750) and BIOC531

MS courses to be credited toward Elective Courses:

6 CrHr

| | Sample Curriculum (MS Health Sciences) | | |
|---------------|---|---|---|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(3) BMS700 Scientific Integrity (1) PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) PUBH662 Clinical Research Methods (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | PHAR757 Patient Reported Outcomes (3) Elective Course (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BMS720 Scientific Writing (2) CTS780 Research Experience (4) [Dissertation Committee Selected] |
| Year 2 | Elective Course (6) CTS797 Research ((3) CTS707 Journal Club (1) [Comprehensive Exam] | CTS797 Research (8) CTS707 Journal Club (1) [Candidacy Exam] | CTS797 Research (3) |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

I. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Biomedical Sciences

MS courses to be credited toward CTS Core Courses:

BMS720

PSIO750 and BIOC531

MS courses to be credited toward Elective Courses:

6 CrHr

| | Sample Curriculum (MS Biomedical Sciences) | | |
|---------------|--|--|--|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(2) BMS700 Scientific Integrity (1) PUBH662 Clinical Research Methods (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BIOS601/602 or equivalent (3+1) EPID601 Pub Health Epi(3) PHAR757 Patient Reported Outcomes (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | CTS780 Research Experience (4) [Dissertation Committee Selected] |
| Year 2 | PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) Elective Course (3) CTS797 Research (4) CTS707 Journal Club (1) | Elective Course (6) CTS797 Research (4) CTS707 Journal Club (1) [Comprehensive Exam] | CTS797 Research (3) [Candidacy Exam] |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

J. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MPH in Epidemiology (WVU)

MPH courses to be credited toward CTS Core Courses:

BIOS 601/602 and EPID611

MPH courses to be credited toward Elective Courses:

6 CrHr

| Sample Curriculum (MPH Epidemiology) | | | |
|---|---|--|---|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program CTS700 Fundamental of CTS(3) BMS700 Scientific Integrity (1) PSIO750 Graduate Physiology and Pharmacology I (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BIOC531 General Biochemistry (4) PHAR757 Patient Reported Outcomes (3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BMS720 Scientific Writing (2) CTS780 Research Experience (4) [Dissertation Committee Selected] |
| Year 2 | PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) Elective Course (6) PUBH662 Clinical Research Methods (3) CTS797 Research (2) CTS707 Journal Club (1) | Elective Course (3) CTS797 Research (5) CTS707 Journal Club (1) [Comprehensive Exam] | CTS797 Research (3) [Candidacy Exam] |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

K. Sample Curriculum & Course Sequencing: Students matriculating into the program with an MS in Exercise Physiology (WVU)

MS courses to be credited toward CTS Core Courses:

EXPH511 (for BIOS 601/602)

PSIO750

MS courses to be credited toward Elective Courses:

6 CrHr

| Sample Curriculum (MS Exercise Physiology) | | | |
|---|--|---|---|
| | Fall | Spring | Summer |
| Year 1 | CTS Orientation Program BMS700 Scientific Integrity (1) CTS700 Fundamental of CTS(3) PHAR758 Ethical and Regulatory Aspects of Clinical Research (1) CTS780 Research Experience (4) CTS707 Journal Club (1) | BIOC531 General Biochemistry (4) PHAR757 Patient Reported Outcomes (3) EPID601 Pub Health Epi(3) CTS780 Research Experience (4) CTS707 Journal Club (1) | BMS720 Scientific Writing (2) CTS780 Research Experience (4) [Dissertation Committee Selected] |
| Year 2 | PUBH662 Clinical Research Methods (3) Elective Course (6) CTS797 Research (2) CTS707 Journal Club (1) | Elective Course (3) CTS797 Research (5) CTS707 Journal Club (1) [Comprehensive Exam] | CTS797 Research (3) [Candidacy Exam] |
| Year 3 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) |
| Year 4 | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (8) CTS707 Journal Club (1) | CTS797 Research (3) [Defense & Completion] |

Work Schedule, Sick Leave, Vacation

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

A. Work Schedule

Your first year of study focuses primarily on didactic education. In the fall semester, you can expect to follow the academic calendar of the University for your December holidays. During the week of Thanksgiving, University classes are not in session but research is still going on. Discuss, your work schedule for this week with the faculty member with whom you are rotating. The same is true in the Spring semester, if you are still rotating in laboratories, discuss expectations for spring break with your host mentor. Make sure that you are clear on the expectations each host mentor has for you. These expectations are likely to vary between laboratories. Mentors are made aware of the guideline of approximately 20 h per week in the laboratory during the short rotations. For safety, you should avoid working in the laboratory by yourself.

B. Sick Leave

Graduate students do not receive a specified number of sick days per pay cycle or calendar year. You are encouraged to develop a healthy lifestyle so that you are not sick. In addition, headaches and small malaises should not be used as reasons to not be in class or lab. Regardless of your state of health, your responsibilities remain the same and you will need to make up missed work by working weekends and evenings. Please become familiar with any policies with regard to absenteeism in the syllabi of your courses and in your chosen Ph.D. graduate program. If you are truly sick for a journal club, class, or exam, please inform the faculty member in charge of that activity. This can be accomplished by phone or email or in person and should be done before the class or meeting. Do not assume that informing your mentor or a single faculty member of your absence will result in that absence being communicated to other faculty. Each faculty member with whom you have a class or other obligation must be informed individually for each absence.

C. Vacation

The vacation schedule for the University calendar does not apply to graduate school. Discuss the expectations for vacation with your mentor. These expectations are likely to vary between mentors so it is important to establish these expectations upon entry in the research phase of your program.

Leave of Absence

The Health Science 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, a student may need to take such a leave due to grave illness, pregnancy, or family crisis. Please 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 your return.

Changing mentors

Occasionally students need to change mentors in the course of completing their dissertation research. The protocol to be follows 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 laboratory 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 Assistant Vice President 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 Assistant Vice President 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 Assistant Vice President 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.

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 _____ Graduate Programs at the WVU Health Science Center.

I have read and understand the Handbook of the _____ Graduate Programs 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).

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 ____ 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 or with human subjects). I will remain up-to-date on all certifications for both (laboratory or human subject) conduct and the responsible conduct of research.

Signature: _____

An addendum COVID HSC Professionalism Policy Language 8.4.2020

Many activities occur daily within the Health Science Center, including provision of direct patient care, research, and didactic and laboratory based education. Students enrolled in Health Sciences degree programs or working in the Health Sciences Center encounter other students, faculty, staff, and patients on a regular basis. Failure to adhere to guidance related to public health, including but not limited to, appropriate use of personal protective equipment; social distancing; instructions for gathering in campus buildings; instructions for gathering when off campus; reporting of possible exposure; cooperation in contact tracing efforts; and instructions for self-isolation could result in illness or death of high risk patients, faculty, staff, or classmates; interruption of educational activities for large groups of students; or significant disruption to research activity within Health Sciences.

Students enrolled in Health Sciences degree programs or working in the Health Science Center are expected to abide by University, Health Sciences Center, [WVU Research Office](#), and program-specific requirements related to public health and professionalism.

Students who interact with patients on clinical rotations and participating in practice laboratories are expected to wear, at a minimum, a facemask and protective eyewear/face shield. Individual rotation environments and practice laboratories may have additional PPE requirements (e.g., N95 mask) due to the types of procedures performed which may lead to increased risk of transmission, and students are required to follow any additional requirements in those environments.

When students are off campus, they are expected to follow [local ordinances](#), [state mandates](#), and [CDC recommendations](#) regarding use of PPE and social gatherings.

Failure to follow these requirements is a violation of the WVU [Campus Student Code](#) and the professionalism codes of HSC degree programs. Alleged violations will be reported, investigated, and handled in accordance to with program policies and procedures.

These health and safety policies are for the protection of the University community, as well as patients and their families. Following these policies will help mitigate the spread of COVID-19. However, it is inevitable that individuals within our community will test positive for COVID-19, and all students are expected to treat all other students, faculty, staff, and patients with respect. Alleged behavior that creates a hostile environment or constitutes retaliation, as outlined in [BOG Rule 1.6](#), will be reported, investigated, and handled in accordance to with program policies and procedures.

Students found responsible for refusing to comply with requirements or engaging in prohibited behavior will be subject to professionalism sanctions, up to and including program dismissal. Students may be concurrently subject to University sanctions based upon University policies.

Because failure to comply with these policies place students and other individuals on campus at significant risk, students failing to comply may be subject to interim measures, including interim suspension, as described in the WVU [Campus Student Code](#) or individual program policies.

While the specific recommendations included in this policy apply to COVID-19, the requirement to comply with guidelines related to public health and professionalism also apply to any future communicable pandemic infections.

WVU What You Need to Know

Students are expected to review university level rules and guidance related to COVID-19. Updated information regarding academics, campus safety, public health, student life, testing can be accessed through the [What You Need to Know](#) webpage.

Special Considerations for Healthcare Professionals

Additional information for [healthcare professionals](#) is available through the CDC.

The following examples of behavior could result in sanctions, as put forth in this policy. This list is not an all-inclusive list. We are asking you to embrace these public health policies related to COVID-19 transmission and spread as part of your oath of professionalism and shared responsibility as a member of the Health Sciences community.

1. Failure to disclose positive test result or providing false information about activities or travel to program administrators or during contact tracing.
 - Failure to disclose a positive test result or providing false information will be considered a serious violation of professional standards.
2. Failure to follow quarantine guidelines in place at the time you travel.
 - While students may travel for personal reasons, all students must observe quarantine guidelines regardless of reason for travel.
 - If you miss classes for quarantine due to personal travel, faculty are not obligated to make up material.
 - Failure to proactively disclose travel will be considered a serious violation of professional standards.
3. Failure to follow local restrictions in place for social gatherings while off-campus.
4. Not wearing a face covering while in the Health Sciences Center.