

HANDBOOK OF THE PhD PROGRAM
IN REHABILITATION SCIENCE
2017 – 2018
UNIVERSITY OF PITTSBURGH

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Introduction

The purpose of this Handbook is to inform and guide applicants, students, and faculty through the PhD program in Rehabilitation Science in the School of Health and Rehabilitation Sciences. It is meant as a supplement to “Regulations Governing Graduate Study at the University of Pittsburgh, available online from the Office of the Provost at:

<http://www.pitt.edu/~graduate/regphd.html> and, the “Regulations Pertaining to the Doctor of Philosophy” at: (<http://www.pitt.edu/~graduate/regtoc.html>). Information specific to the PhD program in the School of Health and Rehabilitation Sciences is provided in this Handbook.

1. Mission and Goals

The mission of the Doctoral Program in Rehabilitation Science of the School of Health and Rehabilitation Sciences (SHRS) is to advance the frontiers of knowledge underlying the practice of the rehabilitation disciplines and professions through research, teaching, and professional development.

The primary goals of the PhD program in Rehabilitation Science are to:

- Provide core content in theories and models of rehabilitation, disability and/or assistive technology that underpin rehabilitation science
- Provide in-depth, state of the science, content in basic, clinical, social, medical and/or engineering sciences that support the dissertation research
- Provide mentorship opportunities for immersion in rehabilitation science research labs, projects, and/or ongoing studies
- Prepare students to conduct and disseminate original research that will advance rehabilitation science
- Promote interdisciplinary research in preparation for becoming a research team member
- Promote knowledge, behaviors and skills consistent with the responsible conduct of research
- Provide opportunities to teach content in an area of expertise

The doctoral degree in Rehabilitation Science is an interdisciplinary research degree offered by the School of Health and Rehabilitation Sciences and not by individual Departments within the School. Graduates of this Program will have a specific area of expertise in rehabilitation science as well as a core of interdisciplinary knowledge related to this specific area. They will become the researchers, scholars, teachers, thinkers, and planners in the demanding and changing field of rehabilitation science .

2. Admission Requirements

2.1 Criteria

Applicants should have a strong interest in rehabilitation research as a career. Applicants should also have a master's degree in an area related to rehabilitation science. The exceptional student with a bachelor's degree *and* six or more credits of graduate course work *and* compelling clinical/research experience in rehabilitation science will be considered.

Resources, including Research Mentors, must be available to enable the PhD student to engage in a plan of study and research in the student's major area of interest in rehabilitation research. Therefore, it is important that there is a match between the research interests of an applicant and the faculty of the PhD program.

A minimum grade point average of 3.0 (based on a 4.0 scale) in all college work is required, as well as minimum scores at the 50th percentile on the analytical writing, verbal reasoning, and quantitative reasoning measures of the GRE[®] [The institution code for the GRE[®] for the University of Pittsburgh is 2927]. Our requirement for students for whom English is a foreign language on the Test of English as a Foreign Language (TOEFL) is a minimum score of 100 (internet); 600 (paper); or Band 7.0 on the IELTS (taking the academic reading and writing modules of the test). Applicants having a master's degree from an English speaking country are not required by the University to take the TOEFL or IELTS, however, the identified research mentor may request this as part of the application process.

2.2 Application Process

All prospective students are required to submit the following:

- Completed SHRS online application
https://app.applyyourself.com/AYApplicantLogin/fl_ApplicantLogin.asp?id=up-hr
- An essay stating career goals, specific research interests and experience, and clinical interests and experience
- Three to five academic or work related letters of recommendation (at least one academic reference must be included as well as a letter of support from the identified Research Mentor)
- Resume, including: work history, formal education, continuing education, licensing and certification, professional organizations, honors and awards, publications, presentations, and grants
- Official transcripts from all colleges and universities attended; transcripts must be sent directly from the institution to the University of Pittsburgh

- GRE® revised General Test
- Test of English as a Foreign Language (TOEFL) or IELTS scores (for candidates whose native language is not English)
- At least one example of written work (class project, course assignment, publication for which candidate is first author, etc.)

All applicants will be evaluated by members of the PhD Admissions Committee. Admission to the PhD program requires that the applicant meet the standards for a PhD student in SHRS and that a faculty member of the PhD program agrees to be the Academic Advisor for that applicant. The application is available online at:

https://app.applyyourself.com/AYApplicantLogin/fl_ApplicantLogin.asp?id=up-hr. If you have questions you may contact the Office of Admissions of the School of Health and Rehabilitation Sciences at admissions@shrs.pitt.edu or call (412) 383-6558. Applications are accepted at any time, and admission decisions are usually made on a rolling basis. However, depending on the availability of financial aid, the offer of financial support to an applicant may be deferred until a later date. Applicants are encouraged to apply at least 6 months prior to the term in which they will begin classes.

Office of Admissions
 School of Health and Rehabilitation Sciences
 4020 Forbes Tower
 University of Pittsburgh
 Pittsburgh, PA 15260

2.3 Graduate Student Support

2.3.1 Financial Support

Financial assistance is often available from a variety of sources, including Graduate Student Assistantships and Teaching Assistantships. These assistantships typically require 20 hours of research, teaching, or clinical service per week in exchange for tuition, health insurance, and an annual salary. Other forms of financial assistance, including Fellowships, may be available through individual faculty grants. If you are interested in financial support, please indicate this on your application for admission. Acceptance into the PhD program does not assure that a student will be offered financial aid. Depending on the availability of financial aid, the offer of financial support to an applicant may be deferred until a later date. Since financial aid is limited, applicants who desire financial aid are encouraged to apply early.

2.3.2 SHRS Student Statistical Support

1. Statistician as Consultant

SHRS students who do not have a methodologist or statistician on their dissertation committee will have an opportunity to consult with Dr. Lauren Terhorst, Associate Professor, Department of Occupational Therapy (lat15@pitt.edu) for a maximum of 2 sessions. Students will be asked to fill out a statistical support form to be completed and sent back to Dr. Terhorst prior to Consultation 1 (see Appendix A).

Consultation 1

Consultation 1 will occur prior to the proposal stage. For this consultation students should have at least tentative approval of their research aims by their dissertation committee chairperson (in writing). The consult will be a one hour meeting. Students may consult on topics listed on the statistical support ticket, including advice on appropriate statistical techniques. Students will be expected to conduct their own power analysis but may consult the statistician for recommendations of software, references, etc.

Consultation 2

Consultation 2 will take place after the proposal and before the defense. Students may ask to review output. Students should have specific questions and should have already made interpretations prior to consulting the statistician. The statistician will discuss appropriate interpretations of output. This consult will be a one hour meeting.

2. Statistician as Committee Member

SHRS students wishing to include Dr. Terhorst as a committee member should do so in an e-mail on which the dissertation advisor is copied. This confirms that the advisor is aware of Dr. Terhorst's participation on the committee. As a committee member, Dr. Terhorst will provide statistical consultation on an as needed basis, with meetings set up through student initiation. There is an expectation that Dr. Terhorst will be included in authorship of papers related to the aims of the dissertation.

3. Statistician as Collaborator

Dr. Terhorst will review requests for collaboration on manuscript preparation on a case by case basis. She is most interested in manuscripts that use methodological concepts such as ecological momentary assessment, hierarchical linear modeling, adaptive design, and instrumentation. If a student would like Dr. Terhorst to collaborate as a coauthor on a manuscript, a written request should be sent, along with a description of the manuscript. The student's advisor should be copied on the e-mail to confirm that the advisor acknowledges Dr. Terhorst's participation on the project.

3. Program Requirements

3.1 Credit Requirements

A minimum of 72 credits beyond the bachelor's degree level is needed for the PhD degree at the University of Pittsburgh. Some areas of focus within the PhD Program may require more than 72 credits. Up to 30 credits taken at the graduate level (2000 & 3000 level courses) toward a

master's degree may be transferred. In all cases, at least 36 credits must be completed as a PhD student at the University of Pittsburgh. No undergraduate credits (1000 level courses) may be applied towards the doctoral degree.

The overall form and content of each student's program is the responsibility of the Graduate Faculty of SHRS. To carry out this responsibility, each student has an Academic Advisor who, in consultation with the student, plans a program of study and research in accord with SHRS guidelines.

3.2 Course and Competency Requirements

The following requirements apply to all PhD in Rehabilitation Science students:

- HRS 3000 – Doctoral Seminar: 4 credits
- A grade of B or better for each term of the Methods of Inquiry for Rehabilitation Scientists Core (2 terms, 2 credits), and Core Concepts in Rehabilitation and Disability Core (2 terms, 2 credits)
- An unconditional PASS on the Preliminary Examination for the Methods of Inquiry Core and the Core Concepts in Rehabilitation and Disability Core
- An unconditional PASS on the Comprehensive Written and Oral Examinations in the content area of the dissertation
- HRS 3001 – Dissertation Research: 18 credits
- Content in the areas of research design and statistics: 9 credits
- Receive a grade of C or better in all courses required by their program curriculum. Students who receive a grade below a C in a required course must repeat that course and attain a grade of C or better to graduate. (Note: University regulations state that a student may repeat any course in which a grade of B- or lower is received **if an authorization to repeat the course is given by the student's adviser/faculty.**) Students will not be permitted to register for a course until they attain a C or better in its prerequisites. Failure to receive an acceptable grade after the second opportunity to complete a required course may result in the student being dismissed from the program and SHRS.
- Participate in the teaching of at least one course (see Appendix B, Teaching Participation Form)
- Successful completion of manuscript submission requirement (see Section 3.2.1 below)
- Successful completion of grant application submission requirement (see Section 3.2.2 below)
- Successful defense of the dissertation research

During the first month of enrollment, incoming students need to:

- **Complete a module on plagiarism** and forward the certificate indicating successful completion to Student Services. The module is available at:
<http://www.umuc.edu/writingcenter/plagiarism/index.cfm>

- **Thoroughly read (1) the Handbook of the PhD Program in Rehabilitation Science 2016-2017 and (2) the SHRS Graduate Handbook 2016-2017.** Both Handbooks are available at: www.shrs.pitt.edu under “Current Students – Student Handbooks”.
- **By September 30th,** students need to forward the Handbook Acknowledgment Form (see the last Appendix in each Handbook) to Student Services acknowledging that they have read the policies and procedures and will adhere to them.

3.2.1 Manuscript Submission Requirements

Prior to scheduling the dissertation defense, each PhD student will demonstrate a minimum amount of experience in manuscript writing and submission by completing:

- 1 co-author manuscript accepted for publication, and
- 1 first author manuscript submitted and reviewed by a peer-reviewed journal.

Data-based manuscripts are strongly preferred.

3.2.2 Grant Submission Requirement

Prior to scheduling the dissertation defense, each PhD student will demonstrate a minimum experience with grant writing and submission by completing one of the following:

- Submission and peer-review of a Doctoral Research or Research Fellowship Grant applications (Can be NIH or Private Foundations)
- Submission and peer-review of Pilot study grant applications (e.g., foundations, professional societies, the UPMC Rehab Institute Pilot Award)
- Completion of a grant writing course
- Submission of a provisional and non-provisional patent application
- Submission and peer-review of an SBIR like applications, or other options to secure funding for technology development (pitching an idea for commercial development, etc.)
- Submission and peer-review of the SHRS Doctoral Student Award application

Note: The peer-review may be internal or external peer review. A copy of the summary report from the review should be submitted with a copy of the grant application to Debby Keelan (dkeelan@pitt.edu) to be kept in the student’s file.

Also note: Submission to the \$1,000.00 SHRS scholarship award will NOT qualify for satisfying the grant submission requirement. Only the SHRS Doctoral Student Award application will be eligible to satisfy this requirement.

3.3 Transfer of Credits

If a student wishes to transfer credits, the student and the student’s Academic Advisor must

submit a Credit Transfer Request Form (Appendix C) to Student Services during the first year of study. Transcripts verifying the graduate courses and course descriptions must accompany the petition. The student and student's Academic Advisor will be informed by the Associate Dean of Graduate Studies concerning which courses are acceptable as transfer credits, and this information will be placed in the student's file. Based on University guidelines, students who transfer any credits from a master's degree must complete the PhD within 8 years; students who do not transfer credits must complete the PhD within 10 years.

3.4 Core Areas

There are two Core Areas which are required for all doctoral students in rehabilitation science – methods of inquiry and disability and rehabilitation.

CORE: Methods of Inquiry for Rehabilitation Sciences

(Fall Term, HRS 3002, 1 credit; Spring Term HRS 3004, 1 credit)

All students pursuing a Doctor of Philosophy in Rehabilitation Science degree will be required to demonstrate basic competency in designing and appraising research studies:

Basic competency will be determined through:

- Passing required courses/modules – Methods of Inquiry for Rehabilitation Scientists I and II
- Passing the Preliminary Examination

Basic competency in research methods will address the following content:

- Sample selection including determining sample characteristics, sample size (power), and sampling techniques.
- The types of outcome measures used in rehabilitation research and issues related to outcome measure selection (i.e., reliability, validity, and responsiveness)
- Identify biases in research designs and discuss methods to control them
- Methods for enhancing causal inference in experimental and non-experimental studies.
- Factors that need to be addressed in designing studies: 1) to test intervention effectiveness and efficacy; 2) to develop outcome measures; 3) to develop diagnostic tests; 4) to examine prognosis.
- The purpose of different types of statistics including descriptive, inferential, associative, and risk, and identify how they are used to analyze and interpret data.
- The difference between clinical importance and statistical significance, and identify methods to measure both.

Upon completion of the courses, students will be able to design a research study to answer a specific research question, including the best design for the question asked, sampling, controls for bias or confounding, and basic statistical analysis. They will be able to critically appraise research and apply it to clinical practice.

CORE: Core Concepts in Disability and Rehabilitation Sciences

(Fall Term, HRS 3003, 2 credits; Spring Term HRS 3005, 2 credits)

All students pursuing a Doctor of Philosophy in Rehabilitation Science degree will be required to demonstrate basic competency in understanding the fundamentals of disability and rehabilitation sciences.

Basic competency will be determined through:

- Passing required courses/modules – Core Concepts in Disability and Rehabilitation I and II
- Passing the Preliminary Examination

Basic competency in disability and rehabilitation will address the following content:

- Discussion and development of critical thinking and scientific writing skills
- Readings and discussion of historical and contemporary perspectives in disability and rehabilitation sciences
- Exemplars of disability and rehabilitation sciences concepts in various programs of research
- Analysis and synthesis of concepts across disability and rehabilitation sciences disciplines
- Application of disability and rehabilitation sciences concepts in students' developing programs of research

Upon completion of the modules, students will be able to describe and discuss core concepts in disability and rehabilitation sciences, and analyze and synthesize multiple perspectives on the current and future state-of-the science.

3.5 Academic Advisor

Upon admission to the PhD program, the student will be assigned an Academic Advisor. The Academic Advisor will be a member of the Graduate Faculty in SHRS. He/she will have research interests similar to the student's interests and will have agreed to be the student's Research Mentor.

The Academic Advisor and student will determine the Plan of Study for the student. They will also plan course work or other experiences to enable the student to demonstrate competency in the proposed content supporting the dissertation, as well as statistics/research methodology content in preparation for the Comprehensive Examination and Dissertation Proposal Defense. It is the responsibility of the Academic Advisor to provide advice to the student during the PhD program, especially with the following steps.

- 1) Petitioning the Associate Dean of Graduate Studies for transfer of credits
- 2) Preparing a Plan of Study outlining course work and dissertation credits leading to the PhD Degree
- 3) Locating research opportunities
- 4) Revising the Plan of Study as needed as the dissertation topic is formulated
- 5) Finding a Primary Research Mentor

If either the student or his or her assigned advisor prefers, the student can choose another Academic Advisor, assuming that this faculty member agrees to advise the student. The student must obtain a *Change of Advisor* form online at <https://www.shrs.pitt.edu/student-services/forms/>. Complete the form and secure the required signatures, and return the form to the Office of Student Services. As a general rule, students who have more than 50% of the credits required for graduation should not initiate change of advisor procedures.

3.6 Plan of Study

The student and Academic Advisor will prepare a tentative Plan of Study within the first term of enrollment. **If a Plan of Study has not been submitted by the end of the first term, the student will not be permitted to enroll in the subsequent term.** The Plan of Study Form can be obtained online: www.shrs.pitt.edu/student-services/forms. The Plan of Study should include transfer credits, course work to date, future course work, and dissertation credits leading to the PhD degree. A copy of the Plan of Study will be placed in the student's file. The Plan of Study should be reviewed each term at registration and updated as needed by the student and Academic Advisor. **A final updated Plan of Study must be on file in the student's permanent file in Student Services in the term in which the student graduates, or the student cannot be certified by the Registrar for graduation.**

3.7 Annual Review/Progress Reports

Academic Advisors (Chairs, Doctoral Committees) together with their doctoral students must submit a completed and signed Annual Progress Report Form (Appendix D) which is a written summary of progress towards the student's completion of his/her program of study. The annual report should include steps taken to prepare the student for successful completion of milestones according to the student's progress in the PhD program (i.e., preparation for and successful completion of the Preliminary Examination, Comprehensive Examination, doctoral research and any steps taken to remedy difficulties encountered along the way). All paperwork submitted to the Associate Dean of Graduate Studies, will be recorded into a database, so that progress can be monitored and a copy of the PhD Tracking Form with Milestones will be printed for the advisor every fall term to review with the student. The annual report should be signed by the Academic Advisor/Primary Research Mentor (Chair, Doctoral Committee) and the student and submitted to the Associate Dean of Graduate Studies by **August 30** of each year for inclusion in the student's record.

3.8 Preliminary Examination

The Preliminary Examination will be a written examination only, and the examination will be administered in the computer lab at one time for all students. To sit for the examination, the student must have completed all the required courses (Methods of Inquiry for Rehabilitation Scientists I, II and Core Concepts in Disability and Rehabilitation I, II) with a grade of B or

better. To apply to sit for the examination, students must submit Appendix E to Student Services for approval by the Associate Dean of Graduate Studies by **February 1** in the year they wish to sit for the examination. It is anticipated, but not required, that this examination will occur at the end of the first year of training. The Preliminary Examination will be written by the committees developing the two major Core Areas. The questions will be reflective of the objectives for each Core and they will include higher level, analysis/synthesis type questions. The Examination will consist of two written tests, one for each Core Area (Methods of Inquiry for Rehabilitation Scientists; Core Concepts of Disability and Rehabilitation), with each test being about 2 hours in length. Grading of the Preliminary Examination will be done by the Core Committees, and the results will be: Unconditional Pass, Conditional Pass, or Failure:

- 1) Unconditional Pass: The student has demonstrated the desired level of competency in a Core Area; no additional course work or experiences are required in that Area.
- 2) Conditional Pass: The student needs to take additional course work or independent study in a Core Area, as recommended by the faculty of that Core Area. The student does not need to retake the components of the test for which a conditional pass was received.
- 3) Failure: The student must retake the test in a Core Area failed. It must be retaken within one year of the first Preliminary Examination. Only one retake of a Core Area test will be allowed. Failure to unconditionally or conditionally pass the Core Area the second time may result in dismissal of the student from the PhD program.

3.9 Primary Research Mentor (Chair, Doctoral Committee) and Doctoral Committee

Mentoring doctoral students is one of the most important contributions to scholarship within the academic community. It is the one scholarly pursuit where a faculty member and a student combine talents and efforts to advance knowledge in a specific area of interest. This particular form of scholarship requires a substantial commitment of time and effort on the part of both the mentor and the student.

After the student has passed the Preliminary Examination, the student and Academic Advisor are responsible for identifying a **Primary Research Mentor to Chair the Doctoral Committee**.

The Doctoral Committee Chair should have an earned PhD or equivalent doctoral degree that required a formal doctoral level thesis as part of the program of study. The Doctoral Committee Chair should be a member of the Graduate Faculty at the University of Pittsburgh and be a tenured or tenure-stream faculty member with a primary appointment in the School of Health and Rehabilitation Sciences at the University of Pittsburgh. Exceptions may be made for a graduate faculty member who has an academic appointment that is non-tenure stream, if that individual's expertise is considered to be vital to the student's research. This exception must be approved by the Associate Dean of Graduate Studies in SHRS. If the student's area of research requires the expertise of a Primary Research Mentor who has a secondary appointment in SHRS, the student must have a Co-Primary Research Mentor whose primary appointment is in

SHRS and who meets the qualifications as set forth in this document. The Graduate Faculty Roster can be accessed at: <http://ir.pitt.edu/graduate-faculty-roster/>

The Chair of the Doctoral Committee and members are subject to approval by the Associate Dean of Graduate Studies (Appendix F – Comprehensive Examination and Doctoral Committee Approval Form; When completed submit this form to Student Services). This Doctoral Committee must consist of at least four persons. At least one member must be from outside the School of Health and Rehabilitation Sciences. The Chair and the majority (1 more than half of the Committee members) of the Doctoral Committee must be members of the University of Pittsburgh Graduate Faculty. Non-faculty with appropriate expertise may serve on the Committee with the approval of the Associate Dean of Graduate Studies.

The Doctoral Committee will administer the Comprehensive Examination and review and approve the proposed research project before the student may be admitted to candidacy. The Doctoral Committee has the responsibility to advise the student during the progress of the candidate's research and has the authority to require high-quality research and/or rewriting of any portion or all of the dissertation. It conducts the final oral examination and determines whether the dissertation meets acceptable standards.

The Doctoral Committee should meet at least annually with the student to assess the student's progress. The membership of the Committee may be changed when appropriate or necessary, subject to the approval of the Committee Chair and the Associate Dean of Graduate Studies. The Chair of the Doctoral Committee has the following responsibilities:

- 1) assisting the student in forming the Doctoral Committee
- 2) advising the student in preparing for the comprehensive examination and in preparing the dissertation proposal
- 3) informing the Associate Dean of Graduate Studies of the members of the Doctoral Committee
- 4) informing the Associate Dean of Graduate Studies of the results of the Comprehensive Examination and the Dissertation Proposal
- 5) informing the Associate Dean of Graduate Studies of the time and topic of the Dissertation Defense
- 6) informing the Associate Dean of Graduate Studies of the results of the oral Dissertation Defense
- 7) assisting the student in submitting the completed Dissertation

3.10 Comprehensive Examination

The purpose of the Comprehensive Examination is to assess the student's depth of knowledge and ability to use research methods in the area of specialization. The student's Academic Advisor and Doctoral Committee will determine the additional coursework needed to prepare the student with adequate expertise to conduct the dissertation project.

Timing of the Comprehensive Examination: According to University of Pittsburgh doctoral guidelines, the Comprehensive Examination "should be administered at approximately the time of the completion of the formal course requirements and should be passed **at least eight**

months before the scheduling of the final oral examination and dissertation defense. In no case may the comprehensive examination be taken in the same term in which the student is graduated.”

Thus, the Comprehensive Examination will occur sometime after the Preliminary Examination has been successfully completed and before the dissertation proposal is presented for approval. Students will not be allowed to defend the dissertation proposal until they have successfully completed the Comprehensive Examination. The student’s Academic Advisor, and the Doctoral Committee will determine when the student is ready to take the Comprehensive Examination. It is anticipated, but not required, that this examination will occur by the end of the second year of training.

Examiners: The Examination Committee will include the Doctoral Committee and 1-2 (the number is at the discretion of the Associate Dean of Graduate Studies) Ad Hoc SHRS faculty Dean’s Representative(s), appointed by the Associate Dean of Graduate Studies). The Doctoral Committee members will write the questions. The Dean’s Representative(s) will review and approve the questions and participate in grading both the written and oral portions of the examination.

Examination Content: The examination will consist of 3 questions.

Question 1: Basic Science, Clinical Science, Social Sciences, Engineering, etc. The first question is designed to allow the student to demonstrate expertise in the broader discipline(s) related to the dissertation. Examples may include neuroscience and motor control, anatomy and physiology, mechanisms of disease and pathology, psychology, social science, disability studies, engineering, etc. The question may have several components and the answers to the components of the question should be supported by the literature.

Examples for Question 1:

Example 1: Explain how sensory feedback is used for postural control during standing balance. What structures are involved peripherally and centrally? What behavioral evidence is available to support the existence of this mode of control? Critique the models that help to explain this control. How does this control change across the lifespan?

Example 2: Basic science – joint stability and the sensorimotor system

1. Describe the sensorimotor system and its contribution (in particular proprioception) to joint stability and how it can be affected by ligamentous injury.
2. Define mechanical and functional joint stability and describe:
 - a. What contributes to each type of stability at a joint (knee for example)?
 - b. How would deficits in each type of joint stability contribute to (knee) joint instability?
 - c. Describe if a deficit in one type of joint stability can be present at the (knee) without a deficit in the other type of joint stability, and if so provide examples as to how?

Question 2: Theory. The second question is designed to allow the student to demonstrate scholarly prowess in theoretical issues related to the dissertation topic. The question would require the student to describe the evidence pertaining to a theoretical issue and provide a perspective on the state of the science concerning the theory as it relates to the dissertation topic and what gaps remain to be filled. Present experience with the comprehensive examination has indicated that questions comparing and contrasting 2 or more theories work well as an option for Question 2.

Examples for Question 2:

Example 1: Vibrotactile feedback to the trunk has been proposed as a way for augmenting the postural control in persons with vestibular loss. How do you think vibrotactile feedback would accomplish this task? How would you implement this in the clinic? What are the arguments for using this as a training device versus as an assistive device?

Example 2: Background/theory – shoulder joint stability and injury

1. Describe the static and dynamic components of joint stability at the shoulder. What is particularly unique to dynamic joint stability of the shoulder compared to other joints?
2. Describe the neuromuscular and biomechanical effects of rotator cuff injury.
3. Describe intervention strategies and the evidence for these strategies relative to prevention of rotator cuff injury.

Example 3: There has been an increasing focus on fall prevention with the aging population in the last several years. Synthesize the literature related to fall prevention programs and older adults. Specifically,

1. Briefly discuss the theories that have guided these interventions.
2. Compare and contrast the research outcomes related to interventions focused on exercise/physical activity alone and multifactorial approaches.
3. Discuss the required length of interventions in order to achieve potential outcomes. Based on current research, what are the short-term and long-term outcomes associated with these interventions?
4. Matter of Balance is one evidence-based program for fall prevention. Synthesize the research regarding the outcomes associated with this program specifically. How does this compare to other interventions that have been investigated?

Question 3: Experimental Methods, Research Design, Technology. The third question is designed to allow the student to demonstrate expertise in technical methods to acquire and interpret data as it pertains to the dissertation topic. Examples may include topics related to measurement instruments and laboratory procedures (e.g., motion capture, emg, imaging, etc.), development of mathematical models, development of clinical outcome measures, considerations for designing randomized trials or other experimental approaches, interpretation of data, etc. It is not required that these questions be directly related to the dissertation topic (i.e., a mini dissertation proposal), but rather that the student demonstrates expertise in technical methods that will be used in the dissertation topic.

Examples for Question 3:

Example 1: Design an experiment to determine if individuals with bilateral vestibular loss can use vibrotactile feedback to augment their postural control during standing balance conditions.

Example 2: You are planning a study to validate a shoulder injury prevention program for baseball players. You have electromyography, a goniometer/inclinometer, video-based motion analysis, and a dynamometer available to determine if the biomechanical and neuromuscular contributors to rotator

cuff injury are normalized after the intervention program. Describe the design and statistical analysis procedures you would employ in your study. What are the primary dependent variables of interest needed to validate the prevention program and how are they measured and calculated with electromyography, motion analysis, and a dynamometer? Describe the necessary data collection and processing procedures to collect reliable and valid data.

Example 3: Fear of falling is prevalent in the aging population and has been associated with increasing an adult's risk for falls. Multiple scales are available to assess fear of falling in the aging population. Critically evaluate the existing fear of falling scales. Specifically,

1. What has been evaluated regarding the reliability and validity of these scales? Identify strengths and weaknesses in the current measures. How could these scales be improved?
2. What are some practical and research implications that could result from changing our measurement of fear of falling?

Considerations for Developing the Comprehensive Examination Questions:

Consideration 1: Development of appropriate and thoughtful questions for the comprehensive examination is not a trivial task. The process should involve all committee members with at least one meeting (face-to-face or conference call) to develop the questions. It is not uncommon for the committees to meet more than once during this process to revise and refine the questions. The questions also have to be reviewed and approved by the Dean's Representative and the Associate Dean of Graduate Studies before the examination can be scheduled. The student's Advisor should allow a **minimum of 1 month** for the process of developing, writing, and approval of the questions and engage the committee members as soon as possible during this time.

Consideration 2: A grading rubric should be established for each question. This rubric should include a bullet list of elements that should be in the student's answer. The purpose of the grading rubric is to assist all committee members and the Dean's Representative in grading the questions consistently. The rubric should be submitted with the questions for approval.

Consideration 3: There should be instructions provided to the student regarding the format for answering the questions at the beginning of the examination form, before the first question. The following is the recommended format for these instructions:

Instructions: There are 3 main questions on this comprehensive examination. Each question may have additional sub-questions. To provide you with guidance on the extent of detail expected in answering the questions:

a) Answers to each of the three main questions should be about 4-6 double-spaced pages in length. You should use 0.5 inch page margins, Arial, Helvetica, Palatino Linotype or Georgia typeface, a black font color, and a font size of 11 points or larger. **Documents not in this format will be returned to the student without grading.**

b) Provide citations from the literature to support your answers (not included in the page limits).

c) Answers should exhibit your ability to synthesize and apply relevant literature and should not simply consist of a detailed overview of each cited study or annotated bibliography.

Examination Procedure: The examination procedure has both a written and oral component. The oral component is linked to the written component to allow students to demonstrate their knowledge abilities in alternative methods of expression. Some students may be stronger speakers than they are writers and may be able to convey their skills better in an oral presentation. Conversely, some students may do well in written expression but not be strong speakers. Having both components gives students reasonable opportunity to demonstrate skill regardless of their strengths in written or oral expression.

Once the Doctoral Committee has written the three questions (basic science, theory, experimental methods) and they have been approved by the Ad Hoc faculty members, the examination can be scheduled. In setting a date for the examination, it must be considered that the exam process itself will require a period of 4 consecutive weeks. The student will have 2 weeks to complete the written portion of the examination. The Examination Committee will then be given 2 weeks to review the written examination. The oral examination will be scheduled at the end of this 2 week period (a total of 4 weeks from the time the student is given the questions to the time the oral defense takes place). Therefore, the advisor must first identify a day and time when the committee members and the Dean's representative are available to administer the oral examination, which allows for this consecutive 4 week exam process. Once the oral examination date and time has been identified, the student will be given the examination questions by the Associate Dean of Graduate Studies exactly 4 weeks in advance of the oral examination date. The due date for return of the written exam responses by the student to the Associate Dean will be exactly 2 weeks from the day in which the student received the questions.

Because the examination is intended to be an independent exercise on the part of the student, the student is not allowed to discuss the examination questions directly with any of the examination committee members or other faculty until the time of the oral examination. If the student requires clarification of the questions or any part of the questions, the student should make inquiries through the Associate Dean. The Associate Dean will then communicate the student's inquiries to the committee members and relay the committee response back to the student.

The oral component will be an oral presentation and defense of the answers to the 3 questions. For the oral examination, students will be given 10 minutes to present their answers for each question for a total presentation time of 30 minutes. There will be no time limit placed on the cross examination by the Examination Committee members. Examination Committee members can use the oral examination as an opportunity to go into greater depth of questioning and prompt the student for greater depth of explanations than what may be allowed for in the limits of the written question format. The Examination Committee can elect to have either the student present on all 3 questions before initiating the cross examination period or they can address each question in series (present first question, then cross examine question 1, etc.)

Quorum for the Oral Examination: It is recognized that there may be difficulty in scheduling the oral examination if it is required that all Doctoral Committee members and the Dean's Representative(s) be present for the examination, particularly if some of the committee members are from outside the University. Therefore, a minimum quorum of 2 Doctoral Committee members, one of which must be the Chair of the Doctoral Committee, and a Dean's Representative will be required for the oral examination to take place, however, at least 3 Graduate Faculty members are to be present at the examination.

Examination Grading: Each of the three questions in the examination will be given a separate grade. The rationale for this is that in developing the comprehensive exam, the committee determined that students should demonstrate mastery in all 3 categories being tested. Grading for each question will be Unconditional Pass, Conditional Pass, or Fail. The examination committee should use the rubric provided in the written exam questions and how well the student was able to address questioning in the oral exam in assigning a grade. Both the written and oral components will be taken into account by the examination committee in determining the examination grade. Therefore a grade will not be assigned until the oral examination has been completed. The final overall grade on the comprehensive exam will be determined as follows:

Unconditional Pass = Passes all three questions

Conditional Pass = There are a few possible scenarios for this grade. They are as follows: a) fails 1 of the 3 questions, b) gets a conditional pass on any or all of the questions. If any question was failed, the committee would decide whether it would be just the written, or just the oral, or both written and oral examinations that have been failed and need to be retaken. If any question was conditional pass, the committee would determine the remediation work needed to upgrade the question to an unconditional passing grade.

Fail = Fails 2 or more questions. The student must retake the entire examination. It would be up to the Examination Committee whether new questions would be written or the same questions would be administered for the retake examination. The retake of a failed examination should occur within 3 months of the date of the failed examination attempt. Two failed attempts would trigger dismissal from the program.

The Chair of the Doctoral Committee will **inform the Associate Dean of Graduate Studies as to the results of the Comprehensive Examination within 48 hours of completion of the exam via email.** The Chair of the Doctoral Committee must also **submit the Comprehensive Examination Approval Form to Student Services (Appendix G) within 1 week of completion of the exam.** The comprehensive examination will not be considered complete, and the student will not be able to defend the dissertation proposal until the Comprehensive Examination Approval form is submitted to Student Services.

Special Circumstance: Failure of Comprehensive Examination without Performance of the Oral Examination. There may be some instances where the Examination Committee determines that the student has done so poorly on the written examination that going forward with the oral examination will not likely change the grade to a passing grade. In such cases, a failing grade on the Comprehensive Examination may be given without performance of an oral examination. It is strongly recommended that the Advisor contact the members of the

committee prior to the oral examination to determine if members of the committee agree or disagree that the student be allowed to follow through with the oral examination.

The criteria for determining failure of the Comprehensive Examination without performance of an oral examination are as follows:

1. The student exhibits unquestionable failing performance of 2 of 3 questions on the written examination, and
2. A simple majority of the Examination Committee agrees with the decision.

In instances where the committee is split on this decision (1/2 agree and 1/2 disagree), the oral examination will take place as originally planned.

Comprehensive Examination Checklist

A comprehensive examination checklist has been provided in Appendix H to assist the Committee Chair, the student, and the Associate Dean of Graduate Studies in tracking the important milestones of the comprehensive examination process. Committee Chairs and students are strongly encouraged to use this checklist during this process.

3.11 Dissertation Proposal Defense

When the student and the Doctoral Committee determine that the student is ready to undertake the dissertation project, the student will disseminate the proposed dissertation project to all Doctoral Committee members, and the Doctoral Committee will meet. At the meeting, the student will make a PowerPoint presentation, and defend the proposed dissertation project. The Doctoral Committee will ask questions, make suggestions, and then vote for approval or non-approval of the dissertation proposal. If the dissertation proposal is not approved, the student will respond to the suggestions, and when the Chair of the Doctoral Committee determines that the concerns have been met, the student will defend the proposal again (usually within 3 months). The Chair of the Doctoral Committee will inform the Associate Dean of Graduate Studies as to the results of the Dissertation Proposal Defense by submitting the Dissertation Proposal Approval Form to Student Services (Appendix I).

3.11a Authorship Agreement for the Dissertation Work

Please note that it is required that an Authorship Agreement for the dissertation work between the student and Doctoral Committee members be completed at the time of the proposal defense. This Authorship Agreement will be recorded in the Dissertation Proposal Approval Form in the appropriate areas of the form. The Dissertation Proposal will not be considered complete without this Authorship Agreement being completed

3.12 Admission to Candidacy

To qualify for Admission to Candidacy, the student must have passed Methods of Inquiry for Rehabilitation Scientists I, II, and Core Concepts in Disability and Rehabilitation I, II with a B (3.0) or better; received an Unconditional PASS for the Preliminary Examination; completed all course work with a minimum GPA of 3.0; passed the Comprehensive Examination, and

received approval of the dissertation proposal by the Doctoral Committee. The student is then granted formal Admission to Candidacy for the PhD.

3.13 Dissertation

The student needs to complete at least 18 credits of dissertation research (HRS 3001).

- **When students first enroll in HRS 3001, they should obtain an ETD packet from Student Services.**
- **When students have completed all courses required for graduation, including 18 credits of HRS 3001, and have achieved Candidacy status, students should enroll in FTDI.**
- **Students must be enrolled in the term in which they graduate.**

The oral defense of the doctoral student's dissertation is the culmination of significant scholarly effort by the student with the expert guidance of the student's Primary Research Mentor (Chair, Doctoral Committee) and members of the student's Doctoral Committee. The intent of the oral defense is the public proclamation of scholarship gained through an intensive and rigorous evolution of research within a particular niche of study. Typically, hypothesis-driven questions guide each step of the research to the culmination in the oral defense. Therefore, the student should be capable of defending that research to Graduate Faculty within the University and others with particular expertise or interest in the subject matter, not just reflect upon the specific steps taken to satisfy the proposed course of data collection and analysis set forth by the Doctoral Committee. Since the doctoral dissertation represents scholarship at the highest level, Graduate Faculty as a whole and the Graduate Faculty of the school (SHRS) in particular have a duty to ensure rigorous research. Therefore, it is the duty of the Graduate Faculty who sit on doctoral committees to ensure that a fair and scholarly process takes place during the defense of the doctoral dissertation. The final decision regarding the successful completion of the oral examination and written dissertation lies with the Chair of the Doctoral Committee in agreement with the other Committee members – all Committee members must sign the final cover page proclaiming satisfactory completion of the work.

Because the oral defense is the gold standard in any research university, it must be conducted with all due rigor while not being an onerous process for those involved. The Chair of the Doctoral Committee (Primary Research Mentor) in particular must be certain that the student has completed work to the satisfaction of the Doctoral Committee prior to scheduling of the defense. The Chair must prepare the student in an adequate fashion to present his/her research to an audience that includes scholars that may have little or no knowledge of the particular niche being investigated. It would be to the student's advantage to first present the defense to the Chair of the Doctoral Committee and/or to a group of faculty and peers prior to the formal defense to work out details and proper flow of the presentation. The student should be capable of fielding questions regarding methodology, data analysis, potential implications of the research, limitations in the research protocol used in the study and how the research questions addressed in the study may be more fully developed in subsequent research (where do we go from here questions).

The dissertation must be submitted to all members of the Doctoral Committee, and then

must be defended orally to the Doctoral Committee in the School of Health and Rehabilitation Sciences within Forbes Tower. After final approval of the dissertation by the Doctoral Committee, the student has completed all requirements for the PhD degree. The Chair of the Doctoral Committee will inform the Associate Dean of Graduate Studies when the student has successfully completed the dissertation defense and all revisions to the dissertation.

3.14 Electronic Thesis and Dissertation (ETD)

Completed dissertations (ETD) must be submitted in electronic format to D-Scholarship@Pitt. Students preparing a dissertation should visit the (ETD) website at <http://www.pitt.edu/~graduate/etd/>. Training workshops are provided on: 1) Formatting your Thesis or Dissertation from MS word template to Adobe Acrobat Pro 2) ETD Copyright and permissions. Students are strongly encouraged to attend these training sessions as early as possible and before beginning to write the dissertation.

The student will need to contact Debby Keelan dkeelan@pitt.edu who is the administrator to the Associate Dean of Graduate Studies, for an **ETD PhD electronic packet**. This packet contains all the information needed to complete the ETD. The deadlines for defending your dissertation and submitting your ETD as well as ETD instructions, forms and links can be found on the SHRS Website on the [doctoral webpage](#), click on ETD (Electronic Thesis and Dissertation).

She will also collect all paperwork required for the ETD and will review the ETD for formatting errors. The student will be informed through email about corrections that need to be made. The ETD and paperwork will have to be complete by the defense deadlines to be certified for graduation.

The student should check the [SHRS doctoral webpage](#) for ETD deadline dates for the term in which they are graduating. For more information, go to the ETD website <http://www.pitt.edu/~graduate/etd/news.html>.

3.15 Final Oral Defense of Dissertation

The final oral examination in defense of the doctoral dissertation is conducted by the Doctoral Committee and need not be confined to materials in and related to the dissertation. The student will give a 45 minute or less presentation of the background and significance, aims, methods, and results of the dissertation work, followed by questions from the general audience and graduate students, then the graduate faculty, and finally the dissertation committee. The defense is overseen by a non-committee member moderator who is a member of the Graduate Faculty (responsibilities outlined below). Anyone within or outside of the University may attend and participate in selected portions of the defense. Although this is a public defense, it is strongly recommended that the Chair of the Doctoral Committee discourage the student from including family and friends from attending the defense due to the potential for awkward interactions for the student and Doctoral Committee. No food or beverage will be provided by the student, committee members, or general audience for consumption by the group during the defense proceedings.

The student will contact Debby Keelan in the Dean's office to secure the scheduling of the date,

place, and time of the oral examination. The oral defense should not be scheduled within 8 months of successful completion of the Comprehensive Examination and it should not be scheduled in the same semester as the dissertation proposal defense. **Please note that the moderator for the dissertation defense must be identified and agree to serve as such at the time of scheduling with the Dean's Office. The oral defense date will not be approved without identification of the moderator and the moderator's agreement to serve in that capacity.** Once approved by the Dean's office, the date, place, and time of the oral examination will be published in advance to The Health Sciences Calendar website and published in University Times and the Pitt Chronicle. In addition, the announcement will be emailed to the entire school, and placed on the digital screens in Forbes Tower and on the [SHRS webpage](#) "[Scheduled Defenses](#)". **At least one month prior to defense** the student will need to follow the "[Defense Instructions](#)" on the SHRS doctoral webpage (see below for **Timeline for the dissertation defense**).

Oral examinations are to be scheduled on the Oakland campus, preferably in Forbes Tower whenever possible. The room selected for the oral examination should provide adequate space and electronic resources to accommodate a large group of attendees. The room must accommodate 50 people or more if a larger attendance is anticipated. It is recognized that SHRS includes a few fairly large laboratories that are not located in Oakland and the ability to conduct the dissertation defense at these facilities might actually foster greater faculty participation. Thus dissertation defenses may be conducted off the Oakland campus in these instances, however, there must be access provided to the community to participate via teleconferencing. The teleconference system used should include the ability for interactive participation of viewers and not simply passive observation. Those interested in conducting remote dissertation defenses should provide Debby Keelan with the instructions for participation by teleconference at least 2 weeks prior to the defense so that they can be distributed to the community. Kip Ruefle has recommended Skype for Business as a preferred system. Students and mentors can work with Kip to set this up. Regardless of what system is used, Kip has strongly encouraged that you perform a dry run of the system set up at least a week prior to the defense to ensure it will work properly at the time of the defense. Please note that the preferred location for the dissertation defense is Forbes Tower.

It is preferable for all Doctoral Committee members to be physically present during the examination but if a Committee member is unable to attend the defense, electronic communication must be available in the room to allow for virtual attendance at least by voice. The majority of the Doctoral Committee must be physically present for the defense (e.g., 3 of 4, 3 of 5, 4 of 6, etc.). The candidate, Chair of the Doctoral Committee, and Moderator must attend the defense in person without exception.

The Chair of the Doctoral Committee will secure the agreement of a non-committee member of the Graduate Faculty, from any SHRS department, to serve as moderator for the oral examination. This individual will moderate the timing of the meeting, the order of questioning, and ensure a consistent process for all students involved in dissertation defenses. Although only the Doctoral Committee participates in the deliberations and votes on the passing of the candidate, the moderator will serve as an observer through this process.

Once the dissertation defense has reached the deliberations stage, and all concerns have been addressed, the student will be asked to leave the room and the Doctoral Committee will proceed with their deliberations and vote up or down regarding a passing grade for the dissertation. The moderator who is observing the proceedings is not a contributing or voting member of this Committee. The student will then be invited back into the room and informed by the Doctoral Committee Chair of the decision. If the decision of the Doctoral Committee on passing the oral examination is not unanimous, the case is referred to the Associate Dean of Graduate Studies as a mediator to pursue resolution (this is a University-wide policy).

Necessary changes will be explained to the student as needed to achieve the written format and content that is fully acceptable to the majority of Doctoral Committee members. During the proceedings, the Chair or a member of the Doctoral Committee designated by the Chair will take notes to provide to the student, specifying all revisions that are required prior to submission of the final dissertation document. The Chair of the Doctoral Committee will ensure that the dissertation is in final form before requesting signatures of the members of the Doctoral Committee. The ETD Approval form (included in the doctoral packet available in Student Services and at the link below), signed by all the members of the Doctoral Committee, must be sent to Student Services. The approval form is available in the ETD PhD packet or on the ETD website at <http://www.pitt.edu/~graduate/etd/forms.html>

Time line for the dissertation defense:

1. At least one month prior to the defense, the student will need to follow the “[Defense Instructions](#)” on the SHRS doctoral webpage.

This includes:

- Scheduling a room for the Dissertation Defense (online) – NO FOOD is allowed.
 - Creating an announcement (online).
 - Providing name, date and time of defense, approved room in SHRS (Forbes Tower), title of dissertation, Doctoral Committee members and titles, the abstract, and identification of the moderator for the oral defense.
 - This information will be submitted to the Administrator to the Dean of Graduate Studies to be verified and confirmed with the student’s Doctoral Committee Chair.
 - After confirmation, the announcement will be emailed to the entire school, and placed on the digital screens in Forbes Tower and on the [SHRS webpage "Scheduled Defenses"](#). In addition, the Oral Defense will be posted on the Health Sciences Calendar website and published in University Times and the Pitt Chronicle.
2. The student will bring all necessary paperwork (e.g., ETD Approval Form) to the oral examination.

Responsibilities of the Dissertation Defense Moderator (non-committee member of SHRS Graduate Faculty):

The moderator of the oral defense will welcome the group, read written guidelines, and ensure adherence to the timing of the oral examination. The moderator will function as an independent observer to the process and will complete a checklist of activities for later review by the Department Chair and Associate Dean to promote consistent and fair practices. If necessary, the

moderator will remind faculty to allow the student to answer all questions independently.

Appendix J has a sample script for the dissertation defense moderator, a suggested time frame for each part of the defense, and a defense report form.

4. Residence and Registration Requirements

4.1 Residency Requirements

It is beneficial for most students to be full-time throughout their doctoral study. However, in some instances students will have significant off-campus responsibilities. Therefore, if the student receives approval, the PhD can be completed by a combination of full-time and part-time study. The student must engage in a minimum of one term of full-time doctoral study, which excludes any other employment except as approved by the Associate Dean of Graduate Studies.

4.2 Inactive Status

A student who has not registered for at least 1 credit or full-time dissertation (FTDI) study during a 12-month period will be transferred automatically to inactive status and must file an application for re-admission to graduate study (and pay the application fee) before being permitted to register again.

Inactive students cannot apply to graduate or take Preliminary or Comprehensive Examinations or defend their dissertation. While on inactive status, a student is not eligible to use University facilities and should not expect to receive counseling by the faculty or active supervision by his/her advisor and committee.

Readmission is not automatic nor does it necessarily reinstate the student to the academic status enjoyed prior to becoming inactive. Students must formally re-apply for admission. If the requirements for successful completion of the specific graduate program in which the student was enrolled have changed during the period of non-enrollment, the re-admitted student may be required to meet the revised requirements of the program that are in effect at the time of readmission. This will be decided by the Associate Dean of Graduate Studies.

Readmission is automatic, however, for students who receive prior approval for a formal leave of absence.

4.3 Graduate Student Academic Probation and Dismissal Policies

Graduate students must have a 3.000 cumulative GPA in required courses of their respective program to be eligible to graduate.

Graduate students who have completed at least 9 credits and whose cumulative GPA falls below a 3.000 in their respective courses, will be placed on academic probation and will receive written notification of this status. At this point it is the student's responsibility to meet with his or her Academic Advisor.

To be removed from academic probation, the student will need to achieve a cumulative GPA of 3.000 within his or her next two terms of study. Failure to do so may subject the student to immediate dismissal from the program at the discretion of the Dean of SHRS, taking into account the Department Chair's/Program Director's recommendation.

Students who fail to demonstrate sufficient progress toward meeting graduation requirements in a timely manner may be placed on academic probation or be dismissed from the program at the discretion of the Department Chair in collaboration with the Associate Dean of Graduate Studies and the Dean of SHRS. The School reserves the right to terminate a student at any time for academic or other reasons. Dismissal from the program is at the discretion of the SHRS Dean.

Failure to pass one or more Core Areas of the Preliminary Examination after one re-examination will result in dismissal of the student from the PhD program. The student may petition the Associate Dean of Graduate Studies for an appeal of this dismissal if there are sufficient extenuating circumstances to warrant a third chance to pass the Preliminary Examination.

4.4 Statute of Limitations, Extensions, Leaves of Absence

From the time of initial registration, all requirements for the PhD must be completed within 10 years or **8 years if the student has received credits for completion of a Master's degree**. Under exceptional circumstances, a candidate for an advanced degree may apply for an extension of the statute of limitations. This request must be approved by the Associate Dean of Graduate Studies. Requests for an extension must be accompanied by an assessment of the work required of the student to complete the degree as well as documentation of the extenuating circumstances leading to the requested extension.

Under special conditions the student may be granted one leave of absence for a maximum of two years. The length and rationale for the leave of absence must be stated in advance, recommended by the student's Academic Advisor, and approved by the Associate Dean of Graduate Studies. The time of the leave of absence will not count against the total time allowed for the degree. Readmission following an approved leave of absence is automatic.

Approved by Graduate Faculty of School of Health & Rehabilitation Sciences as revised October 28, 2004; July 26, 2011; November 10, 2011, December 15, 2011, January 19, 2012; February 16, 2012; March 22, 2012, August 2013.

5. Continued Use of Data After Leaving the University of Pittsburgh

Students who leave the university and wish to continue analyzing data collected while at the university under the auspices of the University of Pittsburgh IRB must obtain a data use agreement to do so. The student's advisor can apply as the PI for this purpose, and when the agreement is executed, the advisor can transfer the data to the former student. Detailed instructions can be found at <http://www.research.pitt.edu/cc-c-data-use-agreements>

Appendix A

SHRS STATISTICAL SUPPORT TICKET

Name:
Department:
Year of Study:
Dissertation Chair:
Dissertation Committee Members:
Stage of Dissertation: (Proposal or Defense)

Type of statistical support requested (check all that apply):

- Methodological consultation**
 - Study design
 - Statistical Analyses (determining appropriate techniques for study)
 - Sample size estimation
- Statistical consultation**
 - Database construction
 - Statistical software or programming issue
 - Analyses (review of output)

If you need a methodological or statistical consultation, please answer the following questions:

1. What are the specific aims of the dissertation?
2. Describe the population.
3. List each independent variable of the study and provide the level of measurement. (Example: Intervention type: Strategy Training vs. Control, dichotomous variable).
4. List each dependent variable of the study and provide the level of measurement. (Example: Function, measured by the FIM, continuous score).
5. Will data be collected at one time point or more than one time point? If more than one time point, describe the repeated measures of the study. (Example: The FIM will be administered at three time points: baseline, 3 months, 6 months).
6. Do you have prior estimates of effect sizes for the dependent variable? (Ex: estimates of the effect of strategy training vs control on FIM score) This estimate can come from pilot data or from previous literature.
7. Provide an estimate of the number of individuals you can feasibly recruit for your study.
8. What type of statistical software do you plan to use for your analysis?

Appendix B

TEACHING PARTICIPATION FORM

Submit to Student Services When Completed

Students in the PhD Program in Rehabilitation Science are expected to participate in the teaching of at least one course (Handbook of the PhD Program in Rehabilitation Sciences). This requirement can be met by teaching the equivalent of at least a one-credit course (15 hours of contact) while enrolled as a PhD student. The Academic Advisor of the student is responsible for ensuring that this requirement is met and for certifying this by filling out and submitting this form.

Student's Name: _____

Student's PeopleSoft ID: _____

Teaching Experience:

Course name: _____

Course number: _____

Department: _____

Date of Course: _____

Credit Hours of Responsibility: _____

Type of Teaching (Lecturer, Lab Assistant, Primary Instructor, etc.):

Faculty member coordinating course: _____

Faculty Coordinator's signature: _____

Academic Advisor: (Printed Name): _____

Academic Advisor: (Signature): _____

Date: _____

Appendix D

School of Health and Rehabilitation Sciences
Doctor of Philosophy Program: Annual Progress Report for AY2017-2018

Part 1: Brief Summary

Student's name _____

Brief Summary of Goals Accomplished During this Academic Year

Instructions: Give a brief summary of your academic work/achievements over the 2016-17 academic year

Brief Summary of Goals/Plan for next Year: 2017-2018

Instructions: In collaboration with your Academic Advisor, determine and summarize your major goals for academic year 2017-18. Some goals will be further specified in Part 2

Date
Doctoral Student

Date
Academic Advisor

REMINDERS:

- If you have completed all PhD coursework, completed 18 credits of HRS 3001 Doctoral Dissertation, AND achieved candidacy status, you should enroll in FTDI 0000.
- If you are enrolled in HRS 3001; have you taken the ETD workshop? Have you picked up the ETD information with deadlines from Debby Keelan?

School of Health and Rehabilitation Sciences
 Doctor of Philosophy Program Annual Progress Report for AY2017-2018
Part 2: Goals & Outcomes

Student's name: _____
 Academic Advisors Name: _____

Instructions: This section provides the opportunity for you to set goals regarding research, publications, presentations, and professional development. Using research as an example, for this academic year, you might set the goal to “Initiate dissertation study” Over the academic year, you might plan to take 5 steps as outlined below. **The Achieved Outcome will be recorded at the end of the 2016-17 academic year (April – if you do not enroll Summer Session).**

1. Research Accomplishments		
Goal: EXAMPLE	Initiate dissertation study	Timeline
Steps	Obtain IRB approval Establish study procedures Develop electronic and paper record systems Develop recruitment strategy Complete training in assessment protocol	October 2016 October 2016 November 2016 December 2016 December 2016
Expected Outcome	Recruit 20 of 40 participants and have 20 participants complete entire protocol	April 2017 ~5 participants per month
Achieved Outcome	Recruited 16 of 20 anticipated participants; Higher than expected refusal rate; To increase referral rate will attend all relevant clinics and talk with potential participants personally following approval obtained by healthcare provider.	
Goal #1		
Steps		
Expected Outcomes		
Achieved Outcomes		
Goal #2		
Steps		
Expected Outcomes		
Achieved Outcomes		

2. Publication Record		
Goal: EXAMPLE	<i>Submit manuscript for peer-reviewed publication</i>	Timeline
Steps	<i>Analyze pilot PASS data Write up pilot study for publication Obtain co-author approvals</i>	<i>9/16 Submit manuscript 1/17</i>
Expected Outcomes	<i>PASS manuscript accepted for publication</i>	<i>3/17</i>
Achieved Outcomes	<i>Accepted by Archives of Physical Medicine and Rehabilitation</i>	<i>To be published 5/17</i>
Goal #1		
Steps		
Expected Outcomes		
Achieved Outcomes		
Goal #2		
Steps		
Expected Outcomes		
Achieved Outcomes		

3. Presentation Experience		
Goal: EXAMPLE	<i>"Give scientific presentations/posters within and outside of the University"</i>	Timeline
Steps	<i>Submit abstracts to local and national scientific meetings; Present poster or paper;</i>	<i>Ongoing Poster submitted for IR day 2017</i>
Expected Outcome	<i>"Dissemination of PASS pilot study results"</i>	<i>Present 6/10/17</i>
Achieved Outcome	<i>"Poster presented at IR day; accepted for presentation ACRM, October 2017"</i>	
Goal #1		Timeline
Steps		
Expected Outcomes		
Achieved Outcomes		

Goal #2		Timeline
Steps		
Expected Outcomes		
Achieved Outcomes		

4. Professional Development		
Goal: EXAMPLE	<i>Socialize to role in academic research</i>	Timeline
Steps	<i>Attend workshops offered by the University as appropriate; Attend faculty meetings; Engage in educational learning laboratory experiences</i>	<i>Ongoing</i>
Expected Outcomes	<i>Improved understanding of academic research roles</i>	<i>Ongoing</i>
Achieved Outcome	<i>Attended Ramp to K and Women in Science; Attended ARHP webinar on mentoring</i>	
Goal #1		Timeline
Steps		
Expected Outcomes		
Achieved Outcomes		
Goal #2		
Steps		
Expected Outcomes		
Achieved Outcomes		



School of Health and Rehabilitation Sciences
 Doctor of Philosophy Program: Annual Progress Report for AY2017-2018
Part 3: Cumulative Summary of Scholarly Achievements & Productivity

Student's name _____

Publications: Give complete citations under the appropriate category

- *Peer-reviewed Publications:*
- *Books, Chapters, Monographs:*
- *Other Publications:*

Presentations: Give complete citations under the appropriate

- *Invited Presentations:*
- *Peer-reviewed Presentations:*
- *Other Presentations:*

Grants and Other Funding:

Agency/Number	Title	Role	Amount
SHRS Fund; #6	Older Adults Use of Assistive Technology	Data collector	\$1,000

Patents:

Research Awards and Honors

Title of Award/Awarding Association

Teaching

- *Classroom and Group Instruction (courses)*

Course Number: Title and Credit Hours	Student Enrollment; Term	Role(s) in Course, Number of hours for each role (e.g., instructor, lab assistant)	Faculty Mentor
HRS1010, Intro to Rehab Science (3 credits)	n = 50, Fall 2014	Instructor, taught module on epidemiology of disability (12 hours)	Dr. M. Mouse

Appendix E

Validation of Preliminary Exam Preparation

Student _____ *PeopleSoft ID:* _____

Advisor _____ *Date* _____

Required Core Courses (must be completed or in process)	Course Number	Status	Grade (must be B (3.0) or better)
Methods of Inquiry for Rehabilitation Scientists I	HRS 3002	<input type="checkbox"/> Took in past <input type="checkbox"/> Taking now	
Methods of Inquiry for Rehabilitation Scientists II	HRS 3004	<input type="checkbox"/> Took in past <input type="checkbox"/> Taking now	
Core Concepts in Disability and Rehabilitation I	HRS 3003	<input type="checkbox"/> Took in past <input type="checkbox"/> Taking now	
Core Concepts in Disability and Rehabilitation II	HRS 3005	<input type="checkbox"/> Took in past <input type="checkbox"/> Taking now	

*To be eligible to sit for the Preliminary Exams, prior to the exam date the student must have **completed** all Required Core Courses (HRS 3002, HRS 3003, HRS 3004, HRS 3005) with a grade of B (3.0) or better.

Appendix F

**COMPREHENSIVE EXAMINATION / DOCTORAL
COMMITTEE APPROVAL FORM**

Submit to Student Services When Completed - Incomplete Forms Will Not Be Accepted

Student's Name _____ **Advisor's Name** _____

Student's PeopleSoft ID: _____

Name, Academic Rank, School	Graduate Faculty		Specific Expertise related to Your Focused Area of Study
	yes	no	
<u>SHRS Doctoral Committee Chair (#1)</u> Name: _____ Academic Rank: _____	yes	no	
<u>SHRS Committee Member (#2)</u> Name: _____ Academic Rank: _____			<input type="checkbox"/> Check if this member is the co-chair
<u>SHRS Committee Member (#3)</u> Name: _____ Academic Rank: _____			
<u>Outside SHRS Committee Member (#4)</u> Name: _____ Academic Rank: _____ School: _____ Email address: _____			
<u>Additional Committee Member :</u> Name: _____ Academic Rank: _____ School: _____ Email address: _____			
<u>SHRS DEAN'S REPRESENTATIVE:</u> Name: _____ Academic Rank: _____ (Appointed by ADG)			
<u>SHRS DEAN'S REPRESENTATIVE:</u> Name: _____ Academic Rank: _____ (Appointed by ADG)			

APPROVED - Associate Dean for Graduate Studies

Date

- Minimum Criteria: _____ Minimum of 4 members
 _____ Chair must be a Graduate Faculty member from SHRS
 _____ MAJORITY of the committee must be University of Pittsburgh Graduate Faculty
 _____ One member must be from outside SHRS

Appendix H

COMPREHENSIVE EXAMINATION CHECKLIST

- _____ Comprehensive Examination/Dissertation Committee form (Appendix D in PhD student manual) has been submitted to, and approved by the Associate Dean of Graduate Studies (ADG).
- _____ Committee Chairperson has notified the ADG of the intent for the student to take the examination. (Suggested date: 3 months prior to anticipated comprehensive exam oral defense date)
- _____ ADG has assigned an SHRS faculty member to serve as Dean's Representative.
- _____ Examination committee has formulated the exam questions consistent with the recommended format/instructions in the PhD student manual. (Suggested date: 2 months prior to anticipated comprehensive exam oral defense date)
- _____ Committee Chair has submitted the exam questions to the Dean's Representative for review/comment
- _____ Dean's Representative has approved exam questions and submitted them to the ADG for final review/approval
- _____ Once questions have been approved, Committee Chair worked with Committee members, Dean's Representative, and student to schedule a time for the oral exam and worked backward to schedule written examination and deployment of questions. (Deployment of questions occurs exactly 4 weeks from the date of the oral examination)
PLEASE NOTE: ONLY THE ADG CAN DEPLOY THE QUESTIONS TO THE STUDENT
- _____ Once a date for the oral exam has been determined, the ADG will deploy the questions to the student exactly 4 weeks from the date of the oral examination. The student will return the responses directly to the ADG and the ADG will then distribute the questions to the Committee Chair who will, in turn, distribute the questions to the rest of the exam committee for review.
- _____ Committee has reviewed written examination answers and conferred that oral exam proceeds as scheduled. (Oral exam may be cancelled by committee per guidelines in PhD manual)
- _____ Examination was graded at time of oral exam
- _____ ADG was notified of exam outcome by the Committee Chair within 48 hour of oral exam
- _____ Comprehensive Examination Approval Form has been submitted to student services (should occur within 1 week following completion of the oral examination).

Appendix I

DISSERTATION PROPOSAL AND AUTHORSHIP AGREEMENT APPROVAL FORM Submit to Student Services When Completed

The Primary Research Mentor (Chair, Doctoral Committee) should complete this form when the student has successfully completed the requirements for the presentation of the dissertation proposal, and an authorship agreement has been obtained. Authorship guidelines of the International Committee of Medical Journal Editors (<http://www.icmje.org/recommendations/>) should be followed when determining the authorship agreement.

Student's Name: _____ PeopleSoft ID: _____

Date of approval of Dissertation Proposal: _____

Authorship Agreement: Please provide a description of the authorship agreement related to the dissertation project on the following page.

(Written authorship agreements, signed by all committee members will be required for dissertation proposal approval)

Admitted to Candidacy (upon completion of above): _____

Doctoral Committee Chair: (Name)	Signature	School or Affiliation (Yes, No)	Graduate Faculty (Typed/Printed)
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_____	_____	_____	_____
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Committee Members: (Typed/Printed Name)	Signature	School or Affiliation	Graduate Faculty (Yes, No)
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_____	_____	_____	_____
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_____	_____	_____	_____
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_____	_____	_____	_____
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_____	_____	_____	_____
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_____	_____	_____	_____
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_____	_____	_____	_____
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_____	_____	_____	_____
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Authorship Agreement:

Please provide a description of authorship agreement for all parties involved. If more than one manuscript is anticipated, please describe authorship agreement for each anticipated manuscript.

Manuscript #1:

Printed Names of Authors: First Author: Senior Author: Co-Authors:	Author Signatures:
---	--------------------

Manuscript #2:

Printed Names of Authors: First Author: Senior Author: Co-Authors:	Author Signatures:
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Manuscript #3:

<p>Printed Names of Authors:</p> <p>First Author:</p> <p>Senior Author:</p> <p>Co-Authors:</p>	<p>Author Signatures:</p>
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Appendix J

Script to be read at the beginning of the defense by the moderator:

Dissertation Defense Script – Sample

Moderator Introduces the Defense Process

Thank you for joining us today, for [Name's] dissertation defense. I'm [Name] from [Dept.] and I will be moderating the proceedings.

In the School of Health and Rehabilitation Sciences, we ask that you hold questions until after the candidate's presentation. After [Name's] talk, questioning will proceed in stages, starting with the general audience and ending with the dissertation committee. I will introduce each stage of questioning as it occurs. For all members of the audience, please keep in mind that although it is tempting for faculty to answer questions or clarify points, the goal of this exercise is for the student to independently defend the work that has been completed.

Moderator Introduces Committee Members

The dissertation committee members are: [Introduce each by Name, titles, starting with Chair and ending with External Member]

Moderator Initiates the Presentation

Now [Name] will present his/her study, [Title].

Moderator Initiates the Presentation Now [Name]

Stage	Time	Active Participation
<p>Stage 1: Formal presentation by the candidate followed by questions from the general audience.</p>	<p>No more than 45 minutes</p>	<p>General audience (students, practitioners, non-graduate faculty)</p>
<p>Note: Questions during this stage should be initiated by the General Audience and not the graduate faculty or committee members. A graduate faculty or committee member may ask follow-up questions or comments pertaining to a question initiated by the general audience. The moderator will ask the graduate faculty/committee members if there are any follow-up questions once the student has responded to the question initiated by the general audience member. Once the student has responded to any follow-up question, the moderator resumes questioning by the general audience. The key in this stage is that the general audience is given the opportunity to initiate questions and the graduate faculty/committee may ask follow-up questions.</p> <p>When there are no other questions to be initiated by the general audience the Moderator concludes the formal presentation/general question period and announces that the oral examination will proceed with questions from members of the graduate faculty, who are not on the dissertation committee. The entire audience is welcome to remain in attendance.</p>		
<p>Graduate Faculty Questions</p>	<p>~ 15-20 minutes</p>	<p>Graduate faculty of SHRS and the greater University who are not members of the dissertation committee</p>
<p>Note: Questions during this stage should be initiated by the graduate faculty. The Moderator will ask the committee members if they have any follow-up questions/comments once the student has responded to the question initiated by the graduate faculty member. Once the student has responded to any follow-up question, the moderator resumes questioning by the graduate faculty.</p> <p>When there are no further questions to be initiated by the graduate faculty, the Moderator concludes this stage and announces that the oral examination will proceed with questions from the dissertation committee. At this point, the Moderator should stop the proceedings momentarily and allow anyone in the audience who wants to leave to do so.</p>		
<p>Dissertation Committee Questions</p>	<p>There is no time limit but this section usually lasts ~ 30 minutes.</p>	<p>Members of the Dissertation and any other members of the audience who wish to stay</p>
<p>When the dissertation committee indicates there are no further questions the Moderator concludes this stage and the audience, other than the Dissertation Committee and Moderator are excused.</p>		
<p>Deliberation and Recommendations</p>	<p>Time as needed</p>	<p>Members of the Dissertation Committee are present. The moderator is a silent observer during this portion. The candidate is present for probing questions if the committee deems this necessary, but absent during deliberations, and the present again during recommendations and procedural discussions.</p>

Moderator Checklist

Student Name: _____ Defense Date: _____

Moderator Name: _____

During the defense, the moderator will complete the following check list, to be submitted to Debby Keelan, 4019A who will forward it to the Associate Dean of Graduate Studies. Please record actual times for each portion of the defense. These data will help with auditing the dissertation defense process.

Procedural Check List

- | | | |
|-------|----|---|
| YES | NO | Script was read to introduce the dissertation defense |
| _____ | | Record the length of the student's talk (~45 minutes) |
| _____ | | Record the length of general audience questioning (~ 10 minutes) |
| _____ | | Record the length of graduate faculty questioning (~15 - 20 minutes) |
| _____ | | Record the length of dissertation committee questioning (~ 30 minutes) |
| YES | NO | Was student further questioned in private session with the dissertation committee? |
| _____ | | Record the length of the private questioning session if held |
| _____ | | Record length of deliberations |
| YES | NO | Was the student notified of the final committee decision? |
| YES | NO | Was student provided with specific details on finalizing the document? |
| YES | NO | Did faculty need to be reminded during the proceedings to refrain from answering for the student? |

Appendix K

HANDBOOK ACKNOWLEDGMENT AGREEMENT FORM

I have read the **Handbook of the PhD Program in Rehabilitation Science 2017-2018** in its entirety. I understand all the policies and procedures included in this Handbook and agree to abide by them at all times while enrolled as a PhD student in the School of Health and Rehabilitation Sciences, at the University of Pittsburgh. If I have questions at any time regarding the content of the Handbook, I will make an appointment with my Academic Advisor for clarification.

I understand that I am also responsible for knowing and abiding by the policies and procedures outlined in the SHRS Graduate Student Handbook.

Name of Student – PLEASE PRINT

Signature of Student

Date

PLEASE RETURN to Student Services by **September 30, 2017**.