

PhD in Rehabilitation Science

Handbook

Distributed 2019

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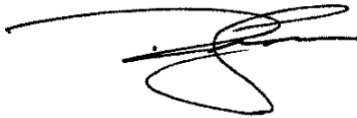
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Introduction

Dear students,

Welcome to the PhD in Rehabilitation Science program! We look forward to working with you over the coming years. This handbook has been assembled to acquaint you with the philosophy of the program and to familiarize you with the policies and procedures of the program, in addition to those addressed in University publications. Please keep this manual in an accessible place, as this information will be relevant throughout your time in the PhD program.

Sincerely,

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the left.

Richard Souza, PT, PhD
Program Director

Signature Page

By signing this form you indicate that you have reviewed the PhD Handbook, and are informed of the policies related to academic and professional expectations. Your signature confirms your understanding of these expectations and your willingness to be responsible for your conduct associated with these expectations. You also understand that this handbook is subject to change and that the Graduate Division, department, and program policies may change. This handbook will also be made available on the PhD in Rehabilitation Science Student Resources CLE page, and it is your responsibility to review and follow any changes as they are provided to you by the program.

Please sign and return to Sondra Morishima at sondra.morishima@ucsf.edu by September 30, 2019.

Print Name: _____

Signature: _____

Date: _____

PhD in Rehabilitation Science – Program Goals

A central goal of the program is to capitalize on the highly interdisciplinary nature of UCSF and offer an academic program that integrates multiple disciplines. PhD students will have the opportunity to participate in specialized training in areas that will ensure distinction of the PhD program at UCSF. These specialized areas include:

Musculoskeletal Biomechanics

Musculoskeletal Biomechanics is one of the foundational sciences of physical therapy and rehabilitation science. Motion analysis and applied biomechanics have roots from over a century ago; however, with recent advances in technology, new and innovative ways to assess and record human movement are being developed. Furthermore, as a result of the reduced cost of many biomechanics research methods, more laboratories are performing these investigations. The result has been an explosion in high-quality biomechanics research performed across the country and beyond. These discoveries are being translated immediately to the clinic for improved patient care.

Our goal is to train new investigators on the latest advancements in musculoskeletal biomechanics and prepare them for research careers in academia and industry. General areas of study in the Musculoskeletal Biomechanics track include: 1) assessment of normal and pathological human movement using motion analysis and kinematic imaging techniques, and 2) quantitative imaging of the musculoskeletal system, including advanced quantitative magnetic resonance imaging (MRI), spiral computed tomography (CT), high-resolution peripheral quantitative computed tomography (HRpQCT), and Positron Emission Tomography (PET). The UCSF Human Performance Center (HPC) is a state-of-the-art motion analysis laboratory with a 10-camera VICON optical motion capture system and three AMTI force platforms for measurement of ground reaction forces. This laboratory, which is dedicated to research, is the only active motion capture system at UCSF. The UCSF Musculoskeletal Quantitative Imaging Research (MQIR) group is a large group of interdisciplinary researchers dedicated to advancing quantitative imaging for clinical implementation and development of post-processing and training procedures for research and clinical use. This group has access to two 3T research-dedicated MR scanners, one whole-body 7T MRI scanner, HRpQCT, CT, PET, PET-MR, and micro-CT scanners.

Clinically Informed Neuroscience

The field of neurorehabilitation has made significant advances over the past two decades in developing metrics to assess functionality and applying these metrics to treatment paradigms. Despite this progress, we have yet to fully appreciate the guiding principles underlying activity-based neuroplasticity and restoration of function. The ability to transform how rehabilitation is implemented in the clinic is dependent upon defining these basic principles in the context models of neurotrauma, neuroinflammation, and neurodegenerative disease, with emphasis on the translation of these laboratory findings to the clinical arena.

The Clinically Informed Neuroscience track offers two pathways of investigation. The first pathway is invested in a clinically-based platform which will focus on neural injury and neurodegenerative disease, with the objectives of assessing disability, applying new technologies to improve functionality, and testing the underlying basis of activity-based restoration of function and outcomes research. To achieve these objectives, students will have access to state-of-the-art motion analysis; robotics, including lower extremity exoskeletons with biofeedback to support locomotion; specialized equipment such as the G-trainer by Alter G, an anti-gravity treadmill to support learning-based training; and the motion analysis equipment in the PT Movement Research Laboratory at San Francisco State University. Students will have the opportunity to interrogate the functionality of the brain and neuroplasticity through state-of-the-art MRI-based technologies and transcranial magnetic stimulation in the Departments of Radiology and Biomedical Imaging, and Neurology, which oversees a rich patient database for stroke and multiple sclerosis for outcomes research. In addition, the Department of Physical Therapy at SFSU provides

students with opportunities to participate in research on balance-based torso weighting interventions for patients with multiple sclerosis and a recently developed program to study movement accuracy. Access to the UCSF patient population, through the collaborative departmental efforts of Physical Therapy and Rehabilitation Science, Neurology and Neurological Surgery, will position the students' science at the forefront of clinical care.

The second pathway within the Clinically Informed Neuroscience track is devoted to laboratory-based translational research that will focus on experimental models of neurodegeneration and chronic neuroinflammation and the interplay between defined activity and key molecular events driving motor, sensory and cognitive decline or recovery. This pathway is supported by laboratories that are uniquely positioned to study structure and function and the molecular basis for damage and reparative processes. These laboratories combine high-level imaging microscopes with molecular biology platforms to study structure and function. Essential to this research is the Neurobehavioral Core for Rehabilitation Research, a facility operated by the Department of Physical Therapy and Rehabilitation Science that provides state-of-the-art instrumentation to fully profile motor, sensory and cognitive function and assess voluntary or forced activity in the context of disease-based animal models. The Core provides ample opportunity for students to not only measure neurological function, but also to address activity as a determinant of outcome. Additional support for this pathway will come from UCSF-sponsored Core services, including: 1) the Biological Imaging Developmental Center, which provides instrumentation for novel imaging, including spinning disk confocal microscopy and confocal microscopy with capability for multi-color and spectral imaging, 2) the Parnassus Flow Cytometry Core, and 3) the Mouse Genetics Core, operated by the Diabetes Center. This pathway will interface with the graduate programs in Neuroscience, Biomedical Sciences and Stem Cell Biology. Students will have the opportunity to attend classes and seminars within these programs including mini-courses that are uniquely tailored to specific research topics.

Non-discrimination Policy

It is the policy of the University of California, San Francisco to provide equal employment opportunities to all individuals without regard to race, color, religion, national origin, ancestry, marital status, sex, sexual orientation, gender identity, pregnancy, physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), age (over 40), citizenship, or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994).

If you believe you've been the target of discrimination or harassment on the basis of belonging to a protected category, contact the [Office for the Prevention of Harassment and Discrimination \(OPHD\)](#) at 415-502-3400 or OPHD@ucsf.edu.

Contacts

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Graduate Division Policies and Requirements

Registration Policies and Deadlines

Students are required to pay fees and file a study list each quarter in order to be considered a registered student. The registrar mails registration information to all continuing students approximately six weeks before the quarter begins. There is a fee for late fee payment or study list filing. Specific deadlines for every quarter can be found on the [Registrar's](#) webpage.

Guidelines for Submitting a Thesis, Dissertation, or Manuscript

The submission of your thesis, dissertation, or manuscript is the final step in the awarding of your degree. The finished document is a scholarly work, and something to be proud of — the result of a long period of preparation and research. Allowing enough time for all the required steps, paying attention to deadlines, and adhering to the required [format guidelines](#) are crucial. The electronic copy of your thesis, dissertation, or manuscript, which you submit to the Graduate Division through Proquest, is deposited in the UCSF Library and becomes an official and permanent record available for use by other scholars and the public. Your committee will guide you in the content of your manuscript and may specify certain elements of style in addition to the prescribed format for all programs. Detailed submission instructions can be found on the [Graduate Division](#) webpage.

Policy on Student Progress: Requirements, Notification, Remediation, and Review

Criteria for satisfactory academic progress in PhD programs

Students in Year One

First-year students should meet with their graduate advisors once a quarter. Student progress is assessed at the end of the year on the basis of course grades and performance, rotation reports (for lab-based programs), and program-specific exams (for medical anthropology and sociology). Indicators of unsatisfactory progress include, but are not limited to, substandard work or unprofessional conduct in the lab/research environment (as reported by the PI), or failing grades in any courses (see list of examples below).

Students in Year Two

Second-year students should meet with the graduate advisor or lab PI once a quarter. Indicators of unsatisfactory progress in year two (as in year one) include, but are not limited to, substandard work or unprofessional conduct in the lab/research environment (as reported by the PI), failing grades in any courses (see list of examples below). In programs with qualifying exams taken by the end of year two, students are also evaluated on their progression toward, timely scheduling of, and then successful completion of the qualifying exam.

Students in Year Three and Beyond

In programs with qualifying exams taken in year three, students are evaluated on their progression toward, timely scheduling of, and then successful completion of the qualifying exam. Students in years three and beyond may also be considered to be making unsatisfactory progress according to any of the indicators listed below.

Students should form their dissertation committee in a timely manner. Not submitting the names of committee members to the program within 6 months of passing the qualifying exam will be considered an indicator of unsatisfactory progress, except in extraordinary circumstances.

In lab-based programs, students are expected to schedule meetings with their dissertation committee at least once a year. Students are expected to complete all degree requirements within normative time for their program.

Unsatisfactory progress indicators include but are not limited to:

- Falling below a 3.0 GPA
- Failing grades in any course
- Failure to find a lab after four rotations (for lab-based programs)
- Unsatisfactory work in the lab (rotation or thesis, as reported by the PI)
- Unprofessional conduct in the lab/research environment (rotation or thesis, as reported by the PI)
- Failing the qualifying exam the first time
- Failure to submit dissertation chapters in a timely fashion (for social science programs)
- Disciplinary problems and other conduct and professionalism infractions that fall within the scope of UCSF's Code of Conduct.

Process by which failing students will be notified and remediated

Students whose progress is unsatisfactory (according to one or more of the criteria listed above) will be notified and will meet with the advisor and the program director to develop an individualized remediation plan to address the deficiencies. The meeting results in a memorandum of understanding that clearly outlines specific steps and associated deadlines that the student must fulfill in order to receive a satisfactory report. The report is then signed by the following parties: the student, the primary advisor, and the program director. At this point, the report is filed in the student's academic file within the program, and a copy is sent to the associate dean for graduate programs.

Should the student be unable to fulfill the expectations according to the timeline outlined in the letter, the student will be subject to dismissal from the program. Depending on the student's standing in the program, PhD candidates may be allowed to leave with a terminal master's degree.

The process for in-depth review of a student's eligibility for dismissal will follow the UCSF Divisional Procedure for Student Grievance in Academic Affairs, section 4.0 [1], and will be conducted by the program's in-depth committee.

Composition of the in-depth review committee, should one be necessary

Each program determines the composition of its in-depth review committee, which shall consist of at least three members. In most instances, it consists of faculty members on the executive committee.

Alcohol and Other Drug Policy

The University recognizes drug and alcohol dependency as treatable conditions and offers student support programs for University students and employees with substance dependency problems. Student Health and Counseling Services (SHCS) offers programs and personal consultation services. Information about the programs and about the health risks associated with substance abuse can be found on the [SHCS website](#).

Policy

The unlawful manufacture, distribution, dispensing, possession, use, or sale of alcohol or of controlled substances by university employees and students in the workplace, on university premises, at official University functions, or on university business is prohibited.

UCSF's implementation of the regulations associated with the [UC Policies Applying to Campus Activities, Organizations and Students](#) are designed to protect the rights of members of the University, prevent interference with University functions or activities, and assure compliance with all pertinent laws and policies.

Associated Students of the Graduate Division

The Associated Students of the Graduate Division (ASGD) is the officially recognized student government of graduate students at UC San Francisco. ASGD functions to create a sense of community among graduate students; to represent the needs of the diverse body of graduate students and to advocate for their rights and interests; and to promote career and professional development for graduate students.

For more information on the ASGD: <https://graduate.ucsf.edu/ASGD>

Benefits

Student Health and Counseling

All registered UCSF students have access to in-clinic healthcare services provided by UCSF Student Health and Counseling. However, students must be enrolled in the Graduate Student Health Insurance Plan (GSHIP) to get medical, mental health, dental, vision, prescription, and travel insurance coverage. For further details on insurance enrollment and benefits visit [UCSF Student Health and Counseling](#), phone 415-476-1281.

PhD Student Leave Policy

Students shall work with their program administrator and advisor to ensure that any leave of absence is minimally disruptive to their academic progression.

Parental Leave

Registered PhD students receiving financial support from the University may take up to ten weeks of paid parental leave in relation to childbirth, the adoption of a child, or the placement of a foster child under their care.

PhD students shall continue to receive their current level of support during the ten weeks of paid parental leave regardless of the fund source. In the event the fund source does not provide ten full weeks of paid leave, it shall be the responsibility of the student's graduate program to provide the additional funding required. (New parents will also want to see [information on Graduate Division childcare grants](#).)

Medical/Family Leave

Registered PhD students may take up to four weeks of paid leave in relation to their own serious health condition or to care for a family member* who has a serious health condition. Students receiving financial support from the University, regardless of the funding source, shall continue to receive their current level of support during this period. In the event the fund source does not provide four weeks of paid leave, it shall be the responsibility of the student's graduate program to provide the additional funding required.

*For the purpose of this leave policy “family member” is defined as one’s mother, father, sister, brother, parent-in-law, spouse, domestic partner, parent of domestic partner, grandparent, grandchild, child, step or foster child (including children of domestic partner).

Unpaid Leave

To augment either period of paid leave above, registered PhD students may take up to two additional weeks of unpaid leave upon the approval of their program.

This revised policy (effective September 1, 2014) supersedes policies of funding agencies, departments, and programs. Note that the parental leave policy at UCSF currently exceeds that of other UC campuses.

For questions regarding graduate student health insurance coverage for medical expenses related to pregnancy and delivery, please contact [Student Health Services](#), phone 415-476-1281.

Graduate Student Calendar

The graduate student calendar can be found here: <https://graduate.ucsf.edu/calendar>

This calendar includes not only events hosted by the Graduate Division, but also events hosted by graduate programs, such as journal clubs and research talks. Other events of particular interest to graduate students, such as career development events and resource fairs, are also included. See [the main UCSF calendar](#) for a broader look at campus events. Please note: Events on this calendar have been copied from other sources, who may not notify the Graduate Division if an event is moved, rescheduled, or cancelled. Contact the event host or visit their website to verify that event details have not changed before you make plans.

Career and Development Planning

Your faculty advisor will be a great resource for you as you move forward in the PhD program and in your research career. In addition to your advisor and the committees in the PhD and Rehabilitation Science program, there are many resources available to you at UCSF. A list and more information can be found here:

<https://graduate.ucsf.edu/careers>

Code of Conduct and Integrity of Research

Quality research requires adherence to the highest standards of integrity in proposing, conducting, and reporting research.

What to do if you witness or suspect research misconduct

Report suspected research misconduct such as fabrication, falsification, or plagiarism to Dr. Theresa O'Lonergan, associate vice chancellor, ethics and compliance: theresa.olonergan@ucsf.edu or phone 415-502-3468.

Individuals should not undertake investigations of suspected research misconduct on their own. The Office of Ethics and Compliance is responsible for evaluating and investigating all allegations of misconduct related to research at UCSF.

See the [integrity of research notice](#) on the website of the Office of Ethics and Compliance. Please also refer to [campus administrative policy for integrity of research procedures](#).

UCSF Campus Code of Conduct

The [UCSF Campus Code of Conduct](#) articulates the values and ethical practices collectively prized by the UCSF campus community. It expresses the campus commitment to teaching, patient care, research, and business operations that are based on the highest ethical principles. In addition, it declares the expectation that all members of the campus community will exercise integrity and highly ethical conduct when making their contribution to the organization.

There are several campus compliance programs in various stages of development that supplement this Code of Conduct. There are also many UCSF policies and applicable federal and state laws and regulations to which the campus must also adhere. This document is intended to highlight some key issues. See the [Policy on Student Conduct and Discipline](#) for the complete policy.

Graduate Division Student Grievance Procedures

For complete student grievance and academic dismissal procedure guidelines, please see [Appendix VII, Divisional Procedure for Student Grievance in Academic Affairs](#) on the website of the UCSF Division of the UC Academic Senate.

California Residency (US Citizens and Permanent Residents Only)

By establishing California Residency, US Citizens and Permanent Residents do not have to pay non-resident tuition (NRT). Non-resident tuition is waived after the first year as long as you have proved California residency.

As soon as you arrive in the Bay Area, you will need to do the following:

- Register to vote and participate in voting in California Elections
- Designate California as your permanent address on all school and employment records including military records.
- Obtain a California Driver's License or Identification Card
- Pay California taxes as a resident
- Establish Bank account(s) with a California address

Any of the above is evidence of your intent to establish California Residency and documents must be dated **one year** before the quarter for which you seek resident classification. As a new student, you will also need to submit a Statement of Legal Residence to the Office of Admissions and Registrar by the beginning of your first fall quarter. This form and further information on how to fill it out can be found on the registrar's [website](#).

Housing and Commuting

Campus Housing

Living on campus is often the best deal for students, especially when you first come to the Bay Area. Besides the generally lower cost and obvious convenience of living on campus, you will also not be burdened with having to connect utilities or establish internet service; you won't have to sign a long lease or pay large deposits; and you won't have to worry about finding roommates on your own. Even if living in campus housing is not appealing to you for the long-term, you may still find it much easier to live in campus housing temporarily, at least until you get a feel for San Francisco and other Bay Area cities and neighborhoods. [Explore the options for living on campus](#).

[Campus Life Services](#) at UCSF operates all campus housing facilities. Their website has many other resources for students and postdocs seeking housing including eligibility requirements, agreements and contracts, information about parking, renter's insurance, bicycle policy, accommodations for people with disabilities, and much more. The [campus housing website](#) should be your primary source of information about living on campus!

Housing Information Listserv

The Graduate Division hosts a housing information listserv moderated by members of the Graduate Students' Association, which may help you to find a housing situation on or off campus. This listserv was established in 2014 and is gradually coming into wider use. To subscribe follow these directions exactly:

1. Send a one-line email message from the email address you want to use to receive housing information.
2. In the "To" field, enter: listserv@listsrv.ucsf.edu
3. Leave the "Subject" field blank! Do not enter any text here.
4. In the *body* of the message, enter: **subscribe housing-info yourfirstname yourlastname**
(substitute in your own first and last names.)

To post a housing or roommate opportunity to the listserv, just send an email with the relevant information to "housing-info@listserv.ucsf.edu" and follow the prompts.

Please note: The housing-info listserv is offered as a convenience. UCSF makes no warranties as to any of the housing opportunities publicized on the listserv. The listserv is not sponsored by UCSF Housing Services. And a word of caution: Do not rent housing sight-unseen. To protect your identity, do not submit to credit or background checks until you have met the landlord or agent in person.

Public Transportation

UCSF provides free shuttle services between all major campus locations on a regular schedule Monday through Friday between 6am - 8pm (excluding campus holidays). Some shuttles pick up after hours and on weekends. [Timetables](#) for individual UCSF shuttle routes can be found online.

City of San Francisco bus and light rail services are available throughout San Francisco. 511.org provides personalized trip planning for all transit users in the greater San Francisco Bay Area.

Parking

Automobile Parking at UCSF

All UCSF campus locations have a permit parking system. Students must go to the Transportation Services Office at one of the campuses to request a permit. Carpools are treated preferentially for permit parking spaces. Public parking rates for UCSF campuses can be found online.

Disabled Parking at UCSF

Students with special needs may obtain a disabled parking pass by contacting the Transportation Services Office. Monthly rates apply. Students are not eligible for a public disabled daily parking rate.

Bike Parking at UCSF

UCSF offers bike parking for students on campus, and students are required to register their bikes. To register a bike, students will need the following: a photo ID and the bike's make, model, color and serial number. A bicycle safety quiz is also required.

Department Policies and Requirements

Department Requirements – Program of Study

The PhD in Rehabilitation Science offers two areas of specialization that represent the expertise of our Department as well as the UCSF community as a whole: Musculoskeletal Biomechanics and Clinically Informed Neuroscience. These areas of specialization are supported by established research infrastructure, including basic science laboratories on the Parnassus and SFGH campuses, movement analysis labs on the Mission Bay campus, imaging facilities, clinical physical therapy and health and wellness facilities, and the Neurobehavioral Core for Rehabilitation Research. The latter is a Core facility, supported by the Department of Physical Therapy and Rehabilitation Science that is available to the research community to study behavior of mouse models of injuries/diseases and to address activity-based restoration of function.

The unit requirements and required/elective courses in each area of specialization would be as follows.

Unit Requirements (by quarter unit)

- Core units: 15 (year 1)
- Rotation units: 9 (year 1)
- Foundational course units: 4-10 (years 1 and 2)
- Research units: 24+ (year 2), 24 units (year 3) + as needed (years 4 and 5)

Registering for Courses and Taking Time Off

PhD in Rehabilitation Science students do not formally register for classes in the summer, but are expected to continue performing research in their chosen lab during the summer months. We expect that students will take appropriate amounts of vacation annually (about 3 weeks for many labs), and that they obtain approval from their PI prior to making any plans.

Required and Recommended Courses – First Year

Focus is on core courses in rehabilitation science, statistics, research ethics, and basic sciences

The primary focus of the first two years of the PhD program will be to expose students to the basic core courses in Rehabilitation Science and provide opportunities for students to experience and ultimately select a laboratory and Principal Investigator with whom to complete their dissertation. Students are also expected to complete their teaching practicum in either the first or the second year.

Required Courses for Both Tracks in the First Year:

- RS 201 - Introduction to Rehabilitation Science (*fall, 2 units*)
- RS 203 - Doctoral Colloquium (*fall, 1 unit*)
- GRAD 214 - Ethics and the Responsible Conduct of Research (*spring, 2 units*)
- RS 202 - Gross/Regional Anatomy (*spring, 1 unit*)
- GRAD ??? – Race and Racism in Science (*fall, 3 units*)
- Any combination of 7 units total in research design and statistics

Required Foundational Courses for the Neuro Track in the First Year:

- NS 201A - Basic Concepts in Cellular and Molecular Neuroscience (*fall, 6 units*)
- NS 201B - Basic Concepts for Cellular and Developmental Neuroscience (*winter, 4 units*)
- NS 221 - Current Topics in Neuroscience (*fall, winter, or spring, 0.5 units*)
 - This course may be completed for no credit when Neuroscience program has a full cohort.
- ANA 207A - Neuroscience (*summer course - audit*)

Required Foundational Courses for the Biomechanics Track in the First Year:

- BIOE 221 Tissue Mechanobiology (*fall, winter, 2.5-3 units*)
- RS 205 Biomechanics of Human Motion (*fall, 2 units*)

The remainder of the first year of study will be filled with research lab rotations (15 hours/week):

- RS 200A (*fall, 3 units*)
- RS 200B (*winter, 3 units*)
- RS 200C (*spring, 3 units*)

These rotations are similar to the lab rotation requirement in other established PhD Programs at UCSF (e.g. Biomedical Sciences, Biological and Medical Informatics, and Pharmaceutical Sciences and Pharmacogenomics). The objective is for the student to have the opportunity to:

1. Apply concepts taught in formal classes
2. Learn practical aspects of conducting research, including how to work within a multidisciplinary team
3. Acquire exposure to areas of research other than the student's primary area
4. Launch projects with potential for developing into qualifying examination or dissertation research topic
5. Decide on a primary research mentor, if not already identified

Students will participate in active research teams at UCSF or SFSU, or affiliated institutions. The PI and the student will set a plan for the lab rotation, including expectations. The PI is responsible for monitoring participation and student learning in the lab rotation.

Also during their first year, with the guidance of the Steering Committee, students will each form a Graduate Committee of at least three faculty members comprised of two faculty within the PhD Program and one member from an external department whose expertise is related to the candidate's research interest (this may be too early for a dissertation topic). The Chair of the Committee will be a member of the PhD Program faculty and may be the student's primary research mentor. One faculty member should be from the chosen sub-field and presumed dissertation topic of the student. The Graduate Committee will review the student's plan of study, actively advise him/her on appropriate choices, and make decisions as to acceptable progress. Guidelines for typical and acceptable courses of study will be used, but exceptions may be liberally considered by the Graduate Committee depending on the needs of the student. The Graduate Committees will be overseen by the Steering Committee to ensure consistency in the expectations for training and a level of achieved competence by all students.

Required and Recommended Courses – Second Year

Focus on specific area of research in either track

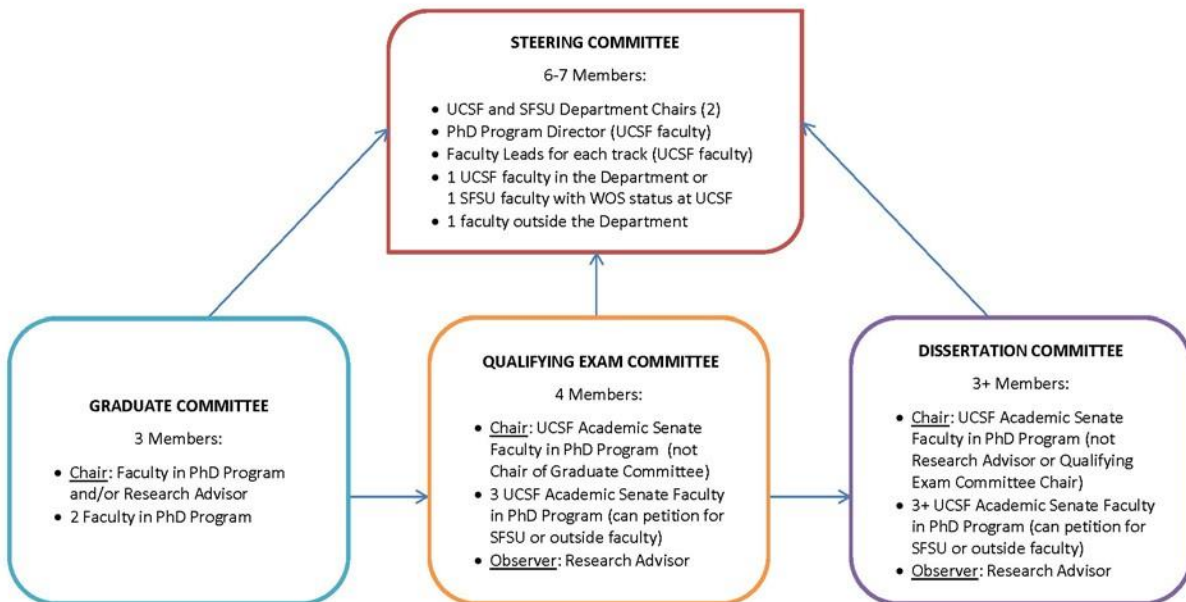
Within the first two years of study, the student, with the assistance of his/her Graduate Committee, will be expected to choose a research emphasis concordant with the expected dissertation topic that will guide topic-

specific and experiential study. Formulation of the topic will be the responsibility of the student with the oversight and advice of his/her Graduate Committee and primary research mentor.

By the end of the second year in the PhD program, students are expected to have selected a research focus and a primary research mentor. The goal of the second year is to allow the student to finalize his/her dissertation focus and obtain the necessary knowledge and skills to successfully execute the dissertation. Coursework to be taken during this time includes required research courses (RS 250, 0.5-8 units), as well as electives within the selected domain, additional courses in biostatistics, and the Doctoral Colloquium (RS 203). It is expected that the student will have at least 20 hours per week for research experiences, including pilot studies for the dissertation proposal, as appropriate. Students should also have completed a *publishable literature review* by the end of the second year.

The primary research mentor will be the principal advisor and supporter of the graduate student. The primary research mentor must have the means to provide financial support from existing research grants for tuition and stipend for years three and beyond.

Committee Structures



Qualifying Examinations

In the PhD program, doctoral students must take and pass a combined written and oral Qualifying Examination. The Qualifying Examination provides evidence the student is able to:

- Critically read, understand, and evaluate current literature in the discipline
- Integrate and synthesize ideas within the field
- Demonstrate comprehensive knowledge of the literature in the field
- Critically evaluate empirical evidence
- Demonstrate a comprehensive understanding of techniques critical to scholarship in the field

- Communicate clearly and effectively to specialist and non-specialist audiences

After completing all required coursework in the first two years, including at least five quarters, a student may apply to the Graduate Division to take the qualifying examination with the written approval of the Chair of his or her Graduate Committee. The examination is offered at the convenience of the student and his or her Graduate Committee and consists of a detailed National Institutes of Health (NIH) style grant proposal to answer a rehabilitation science research question in a field related to his/her primary research area (sections of the NIH style grant proposal will include: 1) Specific aims (limit 1 page); and 3) Research strategy (limit 6 pages), including the significance, innovation, and approach to be utilized). Format should follow: 11-point Arial font; 0.5 inch margin, all sides. Students submit their proposal to the Qualifying Examination Committee at least 30 days prior to the date of their scheduled qualifying examination. The student must meet individually with each member of the Qualifying Examination Committee at least once prior to scheduling the qualifying examination. The Qualifying Examination Committee is comprised of a minimum of four faculty members, three of whom must be UCSF Academic Senate or UCSF non-Academic Senate faculty members in the PhD program. Faculty from SFSU or other academic institutions are allowed to serve on the committee with approval from the Rehabilitation Science PhD Program Director and with notification to the Dean of the Graduate Division. The faculty member designated the chair of the Qualifying Examination Committee must be a UCSF faculty member in the Rehabilitation Science PhD program. The chair of the Qualifying Examination Committee cannot be the same individual who chairs the student's Graduate Committee.

The oral portion of the qualifying examination lasts up to three hours and is closed to the general public, with the exception of the primary research mentor, who is only an observer. The student will be allowed to make a 10-15 minute presentation on his/her research plan with a dry erase board made available for a "chalk talk". Questions for the oral examination will typically be based on the presentation but can include materials covered from any required class in the curriculum, as well as anything pertaining to the student's area of specialization. The (2-4) topic areas that are "fair game" for questions from the committee at the qualifying exam should be agreed upon ahead of time. They can include the required courses (which the members of the committee will have a variable familiarity with) but should focus on the student's area of specialization. The purpose of the oral examination is to determine the student's mastery of content within the rehabilitation science program. Upon finishing their course of study and taking the examination, students should be able to apply reasoning related to rehabilitation science to their chosen substantive areas and resolve methodological problems. The examination will cover the breadth and depth of a student's knowledge in his/her area of specialization within the field of rehabilitation science.

In accordance with the UCSF Graduate Division guidelines, at least one meeting of the whole committee to discuss the results of the examination should by tradition immediately follow the presentation and questioning, with the student out of the room. The student is traditionally called back into the room to receive the grade plus any specific suggestions or contingencies, if any, and the congratulations of the committee if appropriate. The committee may grade the examination either "Pass" (or "Contingent Pass", pending response to committee concerns on the proposal) or "Fail". In line with UCSF Graduate Division guidelines, if a student fails the examination, the committee must make a recommendation for or against a second examination. The committee must be the same as for the original exam. If the student failed in all areas, the re-examination must be on all subjects involved. A partial failure, in which the student passes some fields, but not others, also counts as a first examination. However, re-examination after partial failure may be restricted to those areas in which the original performance was unsatisfactory. The minimum time between examinations is three months. Students who fail the oral examination a second time will be dismissed from the PhD program.

Dissertation

Each doctoral student conducts research under the supervision of a primary research mentor and a Dissertation Committee. The student and primary research mentor recommend a Dissertation Committee, which is formally appointed by the Graduate Division. Once a student successfully passes the qualifying examination, the student's Graduate Committee will disband, and a Dissertation Committee will be formed. This Committee will be composed of three faculty knowledgeable in the field related to the student's research. The Dissertation Committee is responsible for overseeing the research conducted by the student, and offering an outside, unbiased assessment to the primary research mentor. The chair of the Dissertation Committee must be a UCSF faculty member and a member of the Rehabilitation Science PhD program. The chair of the Dissertation Committee may have been a member, but not the chair, of the student's Qualifying Examination Committee, and may not be the student's primary research mentor. A Dissertation Committee must have a minimum of three UCSF faculty members associated with any PhD program at UCSF. Faculty from SFSU or other universities may be appointed to serve on the Dissertation Committee with approval from the Rehabilitation Science PhD Program Director and with notification to the Dean of the Graduate Division. All research involving human subjects, including analyses of previously collected data, must have been approved (or declared exempt) in writing by the UCSF Committee for Human Research in order to be included in a dissertation, regardless of which or how many other such committees elsewhere have previously approved the research. Additionally, research using animals must have been approved in writing by the UCSF Institutional Care and Use Committee in order to be included in the dissertation.

The goal for the dissertation is to provide the student independent-investigator involvement, including idea conception, study design, methodological structure, acquisition, processing, and interpretation, with mentoring and oversight from the Dissertation Committee. It is anticipated that the student's dissertation will include two or three separate projects addressing a single focused dissertation objective with sufficient depth and breadth to contribute to the body of literature in the field. The expectation is that this work will generate at least three independent manuscripts, to be published in peer-reviewed journals.

Final Examination

Dissertation Defense

A closed Defense of the Dissertation will be required for all students. Each student will have 45 minutes to orally present his/her dissertation written project, including the background, methods, results, discussion, and conclusions, to the Dissertation Committee and primary research mentor. This presentation and subsequent questioning will represent the acceptance or refusal by the Committee of the student's body of work throughout the dissertation process. After the formal presentation by the student, the Committee will be allowed to ask questions, propose changes to the written dissertation, and/or request additional investigations, which must be within the scope of the approved research proposal. At the completion of the questioning, the student will be asked to leave the room while the Committee discusses the student's performance and ultimately decides if the body of work satisfactorily meets the requirements of the Doctor of Philosophy in Rehabilitation Science. Once a decision has been made, the student will be informed of the outcome. Options include: Pass without modification to written dissertation; Pass with Modifications to the written dissertation; and Failure of Initial Attempt with an option to revise the dissertation and re-present.

Final Presentation

After the Dissertation Committee has approved the completed dissertation, a final presentation will be required for all students, prior to graduation. The presentation will be open to the local scientific community, general public, and family and friends. Announcements will be made to the appropriate UCSF, SFSU, and outside communities regarding the dissertation presentation. After the completion of the presentation, the student will be required to field questions from the general audience.

Normative Time from Matriculation to Degree

The time needed to complete the PhD in Rehabilitation Science will vary depending on the student's training and experience prior to enrolling in the PhD program and the time it takes to complete the dissertation research.

Students who have completed undergraduate level training require at least two years to complete their coursework and pass their qualifying examination, followed by an additional two to three years to complete their research and file the dissertation. Those who have completed Masters level training may progress more quickly through the coursework. Thus, the mean time to completion of a PhD in Rehabilitation Science for students entering with a Bachelor's degree is expected to be approximately five years. To facilitate timely progress in the program, all students will be required to complete annual progress reports and to discuss them with their adviser and Graduate Committee or Dissertation Committee.

Opportunities for Placement of Graduates

Graduates of the PhD Program in Rehabilitation Science will be prepared as researchers, educators, and leaders in the field of rehabilitation science. Our interdisciplinary educational approach prepares students to conduct collaborative and translational research by integrating knowledge from multiple perspectives ranging from the cellular to the systems level to solve complex problems of physical disablement. Upon graduation, students will pursue academic careers in research and higher education. These individuals will be prepared to address research, education, service delivery, and policy challenges requiring an interdisciplinary perspective. Openings in academia for faculty positions are numerous in this field, and range in positions in Physical Therapy, Gerontology, Oncology, Physiotherapy, Health Sciences, Rehabilitation, and Movement Science departments.

Exceptional students with substantial experience prior to completion of the PhD may be prepared to begin faculty positions immediately upon completion of their dissertation. However, in order to be successful in rigorous academic settings, a postdoctoral fellowship will be recommended to graduates after completion of the PhD. During a postdoctoral fellowship, graduates will complete the process of publishing their dissertation research and work as full-time researchers with a faculty mentor (typically not the primary research mentor). The objective of the postdoctoral fellowship is to provide the graduate time to develop a line of independent investigation to launch their career so that upon accepting a faculty position, the graduate's area of scholarship is defined and the individual is well on his/her way to securing substantial extramural funding to launch an original research program. Graduates will have developed extensive skills as teachers while in the program, also preparing them to succeed in this demanding aspect of the academic career.

Graduate Student Support

The PhD Program will cover the tuition costs and provide a stipend during the first two years of the program using a combination of block funding provided by the Graduate Division, scholarship funds, and extramural funding.

After this point, the expectation is that students will join the primary research mentor's grant with the same level of support (covering tuition plus a stipend).

The Program will encourage students to seek merit-based scholarship or fellowship funding during the first two years. The UCSF Graduate Division offers a range of scholarships in which PhD in Rehabilitation Science students will be eligible, and the Program will notify students of opportunities as they arise.

Additional funding opportunities include:

- [California PT Fund](#) – up to \$10,000 research grant
- [Foundation for Physical Therapy](#) (Florence P. Kendall Doctoral Scholarship – 1-year, \$5,000 scholarship; Promotion of Doctoral Studies (PODS) I Scholarship - 1-year, \$7,500 scholarship; Promotion of Doctoral Studies (PODS) II Scholarship - 1-year, \$15,000 scholarship)
- American Society of Biomechanics – travel awards and research awards (<http://www.asbweb.org/awards-and-grants/>)
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