

# PHYSICAL THERAPY AND CLINICAL LABORATORY SCIENCE

## College of Health and Social Sciences

Dean: Dr. Alvin Alvarez

## Physical Therapy Program

HSS 118

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Director: Jeannette Lee - San Francisco State University

Director: Amber Fitzsimmons - University of California, San Francisco

Graduate Coordinators: J.Lee

## Clinical Laboratory Science Internship Program

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Program Director: Susan Kazarian

## Program

The Physical Therapy degree is an entry-level doctoral degree offered jointly with the University of California, San Francisco.

## SF State Physical Therapy Faculty

### Professor

Diane Allen (2008), *Professor in Physical Therapy*. Ph.D. University of California, Berkeley.

Linda Wanek (1993), *Professor in Physical Therapy*. Ph.D. University of Southern California.

### Associate Professor

Jeannette Lee (2011), *Associate Professor in Physical Therapy*. Ph.D. Texas Woman's University.

Casey Nesbit (2017), *Associate Professor in Physical Therapy*. DPT Marymount University; D.Sc. University of Oklahoma Health Sciences Center.

### Associate Clinical Professor

Sarah Balys Pawlowsky (2013), *Associate Clinical Professor in Physical Therapy*. D.P.T. (2007), University of California, San Francisco/San Francisco State University.

### Lecturers

Beltran, Brand-Perez, Carlisle, Johanson, Leff, McCarthy, Miller, Nelson, Rhodes, Sokolski, Songer, Radtka

## University of California San Francisco Physical Therapy Faculty

### Professor

Rosi, Souza

### Associate Professor

Chaumeil, Fitzsimmons, Kennedy, Kinder

### Assistant Professor

Pak

### Clinical Professor

Jaramillo, Lui

### Associate Clinical Professors

Pitsch, Scheid

### Assistant Clinical Professors

Ann, Armstrong, Arriaga-Martinez, Baxter, Brockman, Cong, Dien, Fecteau, Gann, Hayes, Hernandez, Keller, Patel, Temple

## SF State Clinical Laboratory Science Faculty

### Lecturer

Dora Goto (2020), *Lecturer in Clinical Laboratory Science*. M.S. San Francisco State University.

Atiya Hai (2012), *Lecturer in Clinical Laboratory Science*. M.S. University of Karachi.

Susan Kazarian (2011), *Lecturer in Clinical Laboratory Science, Program Director*. M.B.A. Golden Gate University.

Mary Lim (2018), *Lecturer in Clinical Laboratory Science*. M.S. Michigan State University.

Liana Low (2011), *Lecturer in Clinical Laboratory Science*. B.S. San Francisco State University.

Hamida Nusrat (2006), *Lecturer in Clinical Laboratory Science*. Ph.D. University of Karachi.

Matthew Silverman (2015), *Lecturer in Clinical Laboratory Science*. Ph.D. University of California, Los Angeles.

Carissa Threewitt (2022), *Lecturer in Clinical Laboratory Science*. San Francisco State University.

### Doctorate

- Doctor of Physical Therapy (<http://bulletin.sfsu.edu/colleges/health-social-sciences/physical-therapy-clinical-laboratory-science/doctor-of-physical-therapy/>)

### Certificate

- Graduate Certificate in Clinical Laboratory Science (<http://bulletin.sfsu.edu/colleges/health-social-sciences/physical-therapy-clinical-laboratory-science/graduate-certificate-clinical-laboratory-science/>)

## Physical Therapy

### PT 700 Multisystem Pathokinesiology (Units: 4)

Prerequisites: Restricted to Doctor of Physical Therapy graduate students; PT 201, PT 204A.

An integrated approach to the pathophysiology, evaluation, treatment, and management considerations related to patients with multi-systems musculoskeletal, cardiopulmonary, medical, and integumentary dysfunctions with a focus on physical therapy practice in the acute care environment. Long-term management, adaptive equipment/procedures, and preventative aspects of care are also discussed. Lecture, 2 units; laboratory, 2 units. (Plus-minus letter grade; no CR/NC allowed; RP)

### PT 704 Education, Health Promotion, Wellness, and Prevention in Physical Therapy (Units: 2)

Prerequisite: Restricted to graduate Physical Therapy students.

Principles of communication, learning, and memory affecting physical therapists' roles as an educator in individualized patient and caregiver instruction, staff development programs, community health, wellness, and prevention programs. (Plus-minus letter grade; no CR/NC allowed; RP)

### PT 705 Administration and Organization in Physical Therapy (Units: 2)

Prerequisite: Restricted to graduate Physical Therapy students.

Specific administrative and planning skills required for physical therapy practice in various settings. Quality assurance, documentation, personnel and fiscal management, planning, contracting, health services administration, health care team, professional and medical-legal issues. (Plus-minus letter grade only)

### PT 706 Structure, Function, and Motion in Physical Therapy (Units: 2)

Prerequisite: Graduate Physical Therapy students.

Combine knowledge of human anatomy with basic structural and kinesiological principles to understand the normal functional motion of the spine, trunk, and extremities. Lecture, 1 unit; laboratory, 1 unit. (Plus-minus letter grade only)

### PT 710 Neurological Pathokinesiology I (Units: 4)

Prerequisite: Restricted to graduate Physical Therapy students.

Pathokinesiological and neuromotor principles applied to physical therapy assessment and intervention for neurological dysfunction; physical rehabilitation of adults with neurological impairments, limitations, and disability from trauma, tumors, vascular problems, infectious or degenerative diseases. Lecture, 2 units; laboratory, 2 units. (Plus-minus letter grade only)

### PT 711 Neurological Pathokinesiology III (Units: 3)

Prerequisites: Restricted to graduate Physical Therapy students; PT 710 and PT 213.

Pathokinesiological and neuromotor principles applied to examination, evaluation, diagnosis, prognosis, plan of care, and intervention of neurological dysfunction in pediatric patients. Includes dysfunction from trauma, congenital defects, and degenerative diseases. Lecture, 2 units; laboratory, 1 unit. (Plus-minus letter grade only)

### PT 720 Cardiopulmonary Pathokinesiology I (Units: 2)

Prerequisite: Restricted to graduate Physical Therapy students.

Assessment and treatment of kinesiological/physiological dysfunction of cardiac and pulmonary systems. Physical rehabilitation or training for cardiac and/or pulmonary limitations arising from trauma, disease, congenital defect, or lifestyle. Lecture, 1 unit; laboratory, 1 unit. (Plus-minus letter grade only)

### PT 735 Psychosocial Issues in Rehabilitation Sciences, Part I (Units: 2)

Prerequisite: Restricted to graduate Physical Therapy students.

Exploration of one's individual biases, values, and judgments of psychosocial factors that influence patient and physical therapist interactions; identifying key psychosocial issues and providing intervention and support services where appropriate. (Plus-minus letter grade only)

### PT 736 Ecological and Organizational Issues in Rehabilitation (Units: 3)

Prerequisite: Restricted to graduate Physical Therapy students.

Cultural, environmental, and legislative issues affecting accessibility of physical therapy and related services. Sociocultural issues relative to quality of health as a right; influences of political and fiscal climates on trends in models of health care delivery. (Plus-minus letter grade only)

### PT 737 Psychosocial Issues in Rehabilitation Science, Part II (Unit: 1)

Prerequisite: Restricted to graduate Physical Therapy students.

Exploration of one's individual biases, values, and judgments of psychosocial factors that influence patient and physical therapist interactions; identifying key psychosocial issues and providing intervention and support services where appropriate. (Plus-minus letter grade only)

### PT 741 Musculoskeletal Pathokinesiology I (Units: 4)

Prerequisites: Restricted to graduate Physical Therapy students; PT 200, PT 201, PT 706.

Surface anatomy, basic structure, biomechanical principles applied to the understanding of normal and abnormal human motion in the lower extremities and to the analysis of physical function. Examination, evaluation, treatment skills for musculoskeletal disorders. Lecture, 2 units; laboratory, 2 units. (Plus-minus letter grade only)

### PT 742 Musculoskeletal Pathokinesiology II (Units: 4)

Prerequisites: Restricted to graduate Physical Therapy students; PT 741.

Surface anatomy, basic structure, biomechanical principles applied to the analysis of normal/ abnormal human motion, and physical function in the spine, pelvis, upper extremities. Examination, evaluation, and treatment skills for musculoskeletal disorders. Lecture, 2 units; laboratory, 2 units. (Plus-minus letter grade only)

### PT 743 Musculoskeletal Pathokinesiology III (Units: 3)

Prerequisites: Restricted to graduate Physical Therapy students; PT 741 and PT 742.

Screening, examination, evaluation, and therapeutic treatment techniques, including both manual and exercise-based treatments, for the management of complex patients with musculoskeletal dysfunctions. Lecture, 2 units; laboratory, 1 unit. (Plus-minus letter grade only)

**PT 801 First Full-Time Clinical Education Experience I (Units: 6)**

Prerequisites: Restricted to graduate Physical Therapy students; First-year coursework with a GPA of 3.0 or better.

Students provide physical therapy examination, evaluation, and intervention under the guidance and supervision of a licensed physical therapist in clinical facilities. This is a 10-week full-time first clinical education experience. Students will submit personal goals and reflections and present an in-service. (CR/NC only, RP)

**PT 802 Intermediate Full-Time Clinical Education Experience II (Units: 6)**

Prerequisites: Restricted to graduate Physical Therapy students; First- and second-year coursework with a GPA of 3.0 or better.

Students provide physical therapy examination, evaluation, and intervention under the guidance and supervision of a licensed physical therapist in clinical facilities. This is a 12-week full-time intermediate clinical education experience. Students will submit personal goals and reflections and present an in-service. (CR/NC only, RP)

**PT 803 Terminal Full-Time Clinical Education Experience III (Units: 6)**

Prerequisites: Restricted to graduate Physical Therapy students; PT 410A, PT 410B, PT 801, and PT 802 with a GPA of 3.0 or better.

Students will demonstrate competence in physical therapy evaluation and treatment, applying sound scientific rationale, and incorporating clinical reasoning and clinical decision-making skills in all aspects of physical therapy care. This is a 12-week full-time clinical education experience. (CR/NC only, RP)

**PT 899 Independent Study (Units: 1-3)**

Prerequisites: Restricted to graduate Physical Therapy students; permission of the major adviser and supervising faculty member. Open only to graduate students who have demonstrated the ability to do independent work.

Independent study or research planned, developed, and completed under the direction of a faculty member. May be repeated for a total of 6 units. [CSL may be available]

**PT 908 Professional Colloquium (Unit: 1)**

Prerequisites: Restricted to Physical Therapy doctoral students an PT 208 (UCSF).

Topics relative to evidence-based PT practice: ethics, human subjects, research, authorship, scientific writing; and to professional issues: legislation, direct access to PT services and reimbursement for services. (Plus-minus letter grade only)

**PT 910 Evidence Based Practice (Units: 4)**

Prerequisites: Restricted to graduate Physical Therapy students; successful completion of PT 209 or the equivalent; or permission of the instructor.

Students will continue the evidence-based review they started in PT 209, performing a meta analysis to answer their own research question. Students will present their findings orally and in a publication-style manuscript for the DPT culminating experience. (Plus-minus letter grade only)

**PT 920 Case Reports I (Unit: 1)**

Prerequisite: Restricted to graduate Physical Therapy students.

Research and preparation of a case report on the diagnosis and treatment of a patient care problem relevant to physical therapy. (CR/NC grading only)

**PT 921 Case Reports II (Units: 4)**

Prerequisites: Restricted to graduate Physical Therapy students; PT 920.

Research, preparation, and presentation of a case report on the diagnosis and treatment of a patient care problem relevant to physical therapy. (Plus-minus letter grade; CR/NC not allowed; RP)

**PT 960 Teaching Practicum (Units: 3)**

Prerequisites: Restricted to doctoral Physical Therapy students and PT 704 or equivalent.

Develop necessary teaching skills for classroom, clinic and laboratory. Students take this course at least twice and teach in the clinic at least one semester and in the classroom one semester. May be repeated for a total of 12 units. (CR/NC only)

**PT 990 Doctoral Colloquium (Unit: 1)**

Prerequisites: Restricted to doctoral Physical Therapy students and California licensure.

Forum for discussion on current research, application of research to practice. Students participate in all semesters in the doctoral program and are responsible for planning at least one session. Must be repeated for a total of 8 units. (CR/NC only)

**PT 996 Directed Studies (Units: 3)**

Prerequisite: Restricted to doctoral Physical Therapy students.

Development of research skills in preparation for doctoral laboratory original research. Student will be in a laboratory setting with faculty, post-doctoral and pre-doctoral students. Consists of seminars, journal clubs, and laboratory assignments. May be repeated for a total of 9 units. (CR/NC only)

**PT 997 Research (Units: 2)**

Prerequisites: Restricted to doctoral Physical Therapy students; 9 units of PT 996 or UCSF equivalent; passing score on Oral Comp exam.

Collection of data on original research project under the direction of dissertation advisor and dissertation committee. Determination of objectives and evaluation criteria by advisor based on stage of the project. May be repeated for a total of 8 units. (CR/NC only)

## Clinical Laboratory Science

**CLS 701 Clinical Chemistry and Urinalysis (Units: 4)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Overview of clinical biochemistry and renal function. Proper specimen collection, instrumentation, quality assurance, and physical and chemical analysis of samples. Case histories and laboratory practice emphasize the correlation between laboratory findings and clinical conditions. Seminar, 3 units; laboratory, 1 unit. (Plus-minus letter grade only)

**CLS 702 Clinical Laboratory Science Internship I (Units: 4)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Clinical training in a clinical laboratory for licensure in California and the American Society for Clinical Pathology (ASCP). May be repeated for a total of 8 units. (CR/NC grading only)

**CLS 705 Clinical Laboratory Science Internship II (Units: 3)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Clinical training in a clinical laboratory for licensure in California and the American Society for Clinical Pathology (ASCP). May be repeated for a total of 6 units. (CR/NC grading only)

**CLS 706 Contemporary Clinical Science Issues (Units: 2)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Includes modules on quality control and statistics in the laboratory; laboratory administration, management, and legislation; laboratory instrumentation for manual, automated, and computerized techniques; research methods; and molecular diagnostics theory and clinical practice.

**CLS 707 CLS Bridge to Clinical Practice (Units: 3)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Clinical training in a clinical laboratory for licensure in California and American Society for Clinical Pathology (ASCP). (CR/NC grading only)

**CLS 709 Clinical Laboratory Science Internship III (Units: 3)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Clinical training in a clinical laboratory for licensure in California and American Society for Clinical Pathology (ASCP). (CR/NC grading only)

**CLS 731 Clinical Hematology and Laboratory Application (Units: 4)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Identification of blood cells, pathophysiology, hemostasis mechanisms, and disease states of hematological and hemostasis conditions. Theory and application of hematology procedures with an emphasis on the detection of abnormalities. Interpretation of clinical cases. Seminar, 3 units; laboratory, 1 unit. (Plus-minus letter grade only)

**CLS 753 Clinical Microbiology for the Clinical Laboratory Science Intern (Units: 4)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Principles of diagnostic microbiology that apply to bacteria, fungi, parasites, and viruses, including phenotypic and genotypic detection, identification, and susceptibility testing using slide and culture evaluation. Case histories and laboratory practice emphasizing the correlation of laboratory findings and clinical conditions. Introduction of molecular diagnostic theory and practice. Seminar, 3 units; laboratory, 1 unit.

**CLS 790 Clinical Serology and Immunoematology (Units: 4)**

Prerequisites: Restricted to Clinical Laboratory Science certificate program students with a California State trainee license.

Theory and practice of serology and blood banking including immune system, autoimmune diseases, red blood cell antigens, transfusion reactions, compatibility testing, and current serological methodologies such as ELISA and immunofluorescence. Correlation of laboratory findings with pathophysiology. Interpretation of case studies. Seminar, 3 units; laboratory, 1 unit.