

SCHOOL OF HEALTH AND MEDICAL SCIENCES

Interprofessional Health Sciences Campus

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shu.edu/health (<https://www.shu.edu/health/>)

Interim Dean: Vikram N. Dayalu, Ph.D., CCC-SLP

Associate Dean for Academic Affairs and Research: Michael

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Assistant Dean for Undergraduate and Clinical Education: Natalie

Neubauer, Ed.D., CCC-SLP

Assistant Dean for Interprofessional Education and Operations: Vasiliki

Sgouras-Kapralos, M.D.

Assistant Dean for Graduate Enrollment and Student Affairs: Patrick

McDermott, M.A.

Departments and Chairs

Athletic Training: Vicci Lombardi, Ed.D., ATC

Interprofessional Health Sciences and Health Administration: Anne

Hewitt, Ph.D.

Ph.D. in Health Sciences: Interim Program Director, Genevieve Zipp, PT,

Ed.D., FNAP

Master in Healthcare Administration: Acting Interim Program Director,

Nalin Johri, Ph.D., MPH

Bachelor of Science in Interprofessional Health Sciences: Program

Director, Jerry-Thomas Monaco PT, PhD, DPT, OCS

Occupational Therapy: Ruth Segal, Ph.D., OTR

Physical Therapy: Richard Johnson, P.T., Ed.D.

Physician Assistant: Christopher Hanifin, Ed.D., PA-C

Speech-Language Pathology: Caryn Grabowski, MS CCC-SLP, BCS-S

Faculty: Balasubramanian; Baumley; Boergers; Bolden; Capone Singleton;

Cobb; D'Abundo; Dayalu; DeLuca; Downer; Dunn; Duff; Fernandez;

Fiore; Gogtas; Grabowski; Guthrie; Hanifin; Hewitt; Lombardi; Hubler;

Johri; Kolodny; Koutsoftas; LaFontaine; Lin; Lis; MacGregor; Maffucci;

Marshall; McCarthy; McWeeney; Miller; Monaco; Nagle; Neubauer; Patel;

Picard; Pilkington; Podvey; Rippon; Rodriguez; Saunders; Segal; Sgouras;

Sheikovitz; Snowdon; Wagner; Pinto-Zipp

The School of Health and Medical Sciences offers undergraduate and graduate programs in health sciences. By design, the programs are intended to prepare healthcare practitioners to competently, competitively, and creatively function in a dynamic healthcare environment.

General Information

The School of Health and Medical Sciences, established in 1987, is a professional school within the University structure. The School's mission is to prepare healthcare professionals to assume leadership roles in the healthcare arena. To achieve this goal, a variety of unique and innovative educational programs are offered utilizing a multi-institutional/integrated approach to graduate education.

The School offers a Bachelor of Science in Interprofessional Health Sciences. This four-year degree program provides a broad-based understanding of the healthcare field. The program offers three distinctive and versatile concentrations in Health Science Administration

and Management or Exercise Science. A Pharmaceutical and Health Sciences Marketing concentration is coming soon.

The School offers dual degree (undergraduate-to-graduate) programs in athletic training, occupational therapy, physical therapy, physician assistant, and speech-language pathology in collaboration with the College of Arts and Sciences (Department of Biological Sciences/Department of Social and Behavioral Sciences) and the College of Education and Human Services (Program in Elementary and Special Education). For detailed information about these programs, please consult the pages that follow in this section of the catalogue, as well as the sections about the departments, noted above.

At the graduate level, the school offers an innovative Ph.D. program in Health Sciences. This program, which offers specialization tracks in health professions leadership, movement science, and speech-language pathology, is designed to provide individuals with an enhanced knowledge base through a flexible and diverse curriculum.

The school offers a Master of Science in Occupational Therapy program designed to prepare knowledgeable, caring healthcare practitioners who can provide a broad range of patient care services, conduct clinical research and carry out administrative responsibilities in all occupational therapy practice areas.

The Master of Science in Physician Assistant program prepares post-baccalaureate students to perform as entry-level physician assistants in the broad healthcare arena.

The school offers a Master of Science in Speech-Language Pathology. The program prepares practitioners with the broad-based knowledge and skills to work with the infant-toddler, preschool, school-age, adolescent, adult, and geriatric populations in all settings that employ speech-language pathologists.

The school offers a Master of Science in Athletic Training. The program prepares students to practice as entry-level athletic training practitioners who provide a wide range of patient care services.

The school offers a Doctor of Physical Therapy program. The program is intended to prepare individuals to become professional Doctors of Physical Therapy, who use contemporary and best practices in a safe, ethical, culturally competent, and legal manner. Through diverse academic and clinical experiences, graduates are prepared to be critical consumers of the literature as evidence-based practitioners as well as active contributors and leaders as physical therapists within the health care system and community through education, consultation, and collaboration.

The school offers a Master of Healthcare Administration degree that prepares individuals to assume leadership responsibilities in a variety of healthcare organizations.

Class Attendance and Academic Integrity

Attendance at each class meeting is expected. Instructors may take class attendance into account when determining grades. All forms of dishonesty, whether by act or omission, including, but not limited to, cheating, plagiarism and knowingly furnishing false information to the University, are prohibited. Intentional disruption or obstruction of teaching, research, or administrative proceedings is prohibited. University sanctions may extend to suspension and dismissal. Work submitted in courses must be the product of the efforts of the student presenting it,

and contributions of others to the finished work must be appropriately acknowledged. The presentation of another's work as one's own is a serious violation of the academic process, and it is penalized accordingly. The decision on the appropriate penalty is in the first instance the professor's, and it may extend to a failing grade for the course.

Grading Policy/Repetition of Courses

Students who have completed SHMS courses and received a grade of C or higher are not permitted to repeat such courses. However, any student receiving a grade of less than "C" (including a grade of "U" when applicable) will receive an automatic failure ("F" grade) and shall be required to repeat the course the next time the course is offered to earn a grade of "B" or higher (or "S", when applicable), in the repeated course and maintain a cumulative grade point average of 3.0 or higher. As a result of a course failure, the student shall be placed on academic probation. A student will have only one opportunity to repeat a failed course. Failure to successfully retake and/or pass a failed course shall result in a recommendation of dismissal from the program.

For further information see the SHMS Academic Performance Standards Policy and Student Performance Review Committee (SPRC) Procedures document.

Major

- Interprofessional Health Sciences Major (B.S.) (<http://catalogue.shu.edu/undergraduate/school-health-medical-sciences/interprofessional20health20sciences20major/>)

Accelerated and Dual Degree

- Athletic Training Dual Degree (B.S./M.S.A.T.) (<http://catalogue.shu.edu/undergraduate/school-health-medical-sciences/athletic-training-dual-degree/>)
- Athletic Training Dual Degree B.A./M.S.A.T. (<http://catalogue.shu.edu/undergraduate/college-arts-sciences/departments-biological-sciences/athletic-training-dual-degree-ba-msat/>)
- Elementary and Special Education (B.S.E.)/Speech-Language Pathology (M.S.) (<http://catalogue.shu.edu/undergraduate/college-of-human-development-culture-and-media/departments-educational-studies/elementary-special-education-major-speech-language-pathology/>)
- Occupational Therapy Major Dual Degree B.A./M.S.O.T. (<http://catalogue.shu.edu/undergraduate/college-arts-sciences/departments-sociology-anthropology-criminal-justice/occupational-therapy-major-ba-msot/>)
- Physical Therapy Major Dual Degree B.S./D.P.T. (<http://catalogue.shu.edu/undergraduate/college-arts-sciences/departments-biological-sciences/physical-therapy-major-dual-degree-program-bs-dpt/>)
- Physician Assistant Major Dual Degree B.S./M.S. (<http://catalogue.shu.edu/undergraduate/college-arts-sciences/departments-biological-sciences/physician-assistant-major-dual-degree-bs-ms/>)
- Psychology Major Dual Degree with a Concentration in Speech-Language Pathology B.A./M.S. (<http://catalogue.shu.edu/undergraduate/college-arts-sciences/departments-psychology/psychology-major-dual-degree-speech-language-pathology-ba-ms/>)
- Psychology Major Dual Degree with a Concentration in Speech-Language Pathology B.S./M.S. (<http://catalogue.shu.edu/undergraduate/college-arts-sciences/departments-psychology/>)

psychology-major-dual-degree-concentration-speech-language-pathology-bs-ms/)

ATFY 4000 Fndtns of Athletic Training (6 Credits)

ATFY 4002 Clinical Practicum I (0 Credits)

ATFY 4101 Human Physiology (3 Credits)

ATFY 4111 Functional Human Anatomy (3 Credits)

ATFY 4121 Prin Evaluation Athletic Train (4 Credits)

ATFY 4131 Research Methods I (1 Credit)

ATFY 4141 Research Project I (1 Credit)

ATFY 4151 Clinical Practicum I (2 Credits)

ATFY 4201 Fndtn Therapeutic Intervention (3 Credits)

ATFY 4211 Kinesiology (3 Credits)

ATFY 4221 Exercise Physiology, Nutrition (3 Credits)

ATFY 4231 Research Methods II (1 Credit)

ATFY 4241 Research Project II (1 Credit)

ATFY 4251 Clinical Practicum II (2 Credits)

OTFY 4002 Clin Affil Lev II-Exchange Stu (0 Credits)

OTFY 4100 Professional Formation I (2 Credits)

This course focuses on the acquisition of professional knowledge and skills expected of graduate students in a professional program.

OTFY 4155 Fnctnl Anatomy-Kinesiology I (4 Credits)

This course focuses on understanding and analyzing typical and atypical human movement across the life span using anatomy and kinesiology principles. This course includes labs.

OTFY 4160 Neuroscience for Occup Therapy (2 Credits)

This course covers body functions and structures of the nervous system, including the impact of impairment on activity and participation.

OTFY 4170 Occup Therapy Practice Skills (2 Credits)

This course introduces basic health assessment; client and provider safety; and demonstration and integration of occupational therapy practice skills. This course includes labs.

OTFY 4185 Intro to Occupational Therapy (4 Credits)

This course introduces the students to the foundations of the occupational therapy profession. This course includes labs.

OTFY 4200 Professional Formation II (2 Credits)

This course develops critical thinking and clinical reasoning skills for occupational therapy practice.

OTFY 4240 Functn Antomy - Kinesiology II (2 Credits)

This course continues to focus on understanding and analyzing typical and atypical human movements across the life span using anatomy and kinesiology principles. This course includes labs.

OTFY 4250 Group Process in Occup Therapy (4 Credits)

This course integrates theories of group dynamics and leadership with the development and implementation of functional activity-based groups. This course includes fieldwork I experiences.

OTFY 4260 Cognition Percep Vision -Funct (3 Credits)

This course addresses cognition, perception, and visual impairments; their impact on function; and principles of related occupational therapy assessments and interventions. This course includes labs.

OTFY 4270 Occupational Therapy Process (4 Credits)

This course introduces the principles and implementation of the occupational therapy process.

OTFY 4280 Research Methods I (3 Credits)**OTFY 4303 Research Methods I (3 Credits)**

This course addresses the use of quantitative methods to inform clinical practice and research.

PAFY 4001 Human Anatomy (4 Credits)

Instruction in significant aspects of human anatomy with respect to PA practice. Lecture instruction as well as dissection in cadaver lab are methods used to convey material. Clinical application of anatomic structure and function are emphasized.

PAFY 4104 Psychiatry (2 Credits)

An overview of psychiatric concepts and an introductory approach to the evaluation of patients with mental and behavioral problems. Includes the various psychiatric syndromes, in terms of causal factors, clinical presentation, diagnosis, treatment and prognosis. The impact that psychological problems have on the total health care of the patient will be emphasized.

PAFY 4105 Professional Seminar I (2 Credits)

Prepares students with tools to address comprehensive sociologic issues related to healthcare needs of diverse populations, respectful accommodation of beliefs related to healthcare, and enhanced communication skills to establish connection and trust. Diversity topics in this course in relation to compassionate healthcare include ethnicity/race, religion/spirituality, social determinants of health (socioeconomic status, education, neighborhood and physical environment, employment, and social support networks, as well as access to health care). A standardized patient event of breaking bad news to patients combines topic knowledge, patient communication, and empathy skills. This course will also be a platform to explore the historical development of the Physician Assistant profession, and our role in the healthcare system. Additionally, introductory ethical concerns related to graduate studies will be disseminated, including topics such as intellectual honesty, academic integrity, professional conduct, and essential study skills.

PAFY 4106 Electrocardiography (2 Credits)

Introduction to analysis of the electrocardiogram. The course will review cardiac electrophysiology and indications for ECG testing. Students will learn how to perform a 12 lead ECG as well as how to analyze an ECG for rate, rhythm, axis, intervals, cardiac hypertrophy and ischemia/infarction.

PAFY 4107 Pathophysiology (3 Credits)

Building upon the foundation provided in GMPA6111/PAFY4111, this course provides an in-depth study of the pathophysiologic changes which occur in the body in response to disease and injury. The course discusses how pathologic changes noted at both the cellular and organ system levels alter homeostasis. Correlation to the clinical aspect of disease is emphasized.

PAFY 4111 Human Physiology (3 Credits)

An in-depth exploration of the physiologic aspects of homeostasis at both the cellular and organ system levels. Topics include the cell, musculoskeletal, cardiac, pulmonary, digestive, renal, endocrine, and reproductive systems. Open to physician assistant majors only.

PAFY 4113 Neuroscience (3 Credits)

Covers the basic structure, organization, and function of the central nervous system (CNS). Lectures and laboratories focus on understanding localization of function within specific structures and pathways of the brain and spinal cord, and typical syndromes associated with vascular accidents, trauma or diseases of the various parts of the CNS.

PAFY 4114 Pharmacology I (2 Credits)

Develops skills related to the principles of pharmacology as they pertain to therapeutic agents, prescription, and non-prescription medications. The pharmacology and therapeutic properties of commonly prescribed medications will be a focus of the pharmacology courses. Discussion will include the principal mechanisms of action of major classes of therapeutic agents, understanding of pharmacokinetics and pharmacodynamics, indications, side effects, contraindications, drug interactions, monitoring, and clinical use. Students will complete modules of the Medication-Assisted Treatment Training Program in this course.

PAFY 4115 Pharmacology II (2 Credits)

Building on Pharmacology I, develops skills related to the principles of pharmacology as they pertain to therapeutic agents, prescription, and non-prescription medications. Discussion will include the principal mechanisms of action of the major classes of therapeutic agents, understanding of pharmacokinetics and pharmacodynamics, indications, side effects, contraindications, drug interactions, monitoring, and clinical use. Students will complete modules of the Medication-Assisted Treatment Training Program in this course.

Prerequisites: PAFY 4114

PAFY 4203 Intro Clinical Medicine I (4 Credits)

Introduction to comprehensive principles of medical history taking and hands-on physical examination techniques, systematically organized emphasizing anatomic and physiologic exam proficiencies and proper utilization of medical equipment. Foundations of medical documentation are established. Psychosocial and behavioral elements and the effective relationship between the PA, other health professionals and the patient are explored. Exercises with standardized patients introduce students to real-life medical scenarios.

PAFY 4205 Intro Clinical Medicine II (4 Credits)

Building upon Introduction to Clinical Medicine I, this course refines the foundational skills of comprehensive systematic medical history taking and physical exam, cultivating competencies in problem-focused analysis and critical thinking techniques. Clinical case scenarios, team-based learning activities, standardized patient experiences and evolution of advanced documentation proficiencies establish familiarity with signs and symptoms of medical diagnoses, allowing for evidence-based differential diagnoses formulation. Emphasis is placed on interpersonal communication skills, empathy and trust-building in patient care.

PAFY 4206 Electrocardiography (1 Credit)

This course introduces students to analysis of the electrocardiogram. The course will review cardiac electrophysiology and indications for ECG testing. Students will learn how to perform a 12 lead ECG as well as how to analyze an ECG for rate, rhythm, axis, intervals, cardiac hypertrophy and ischemia/infarction.

PAFY 4207 Diagnostic Imaging (1 Credit)

This course introduces students to diagnostic imaging. Following an introduction to different imaging modalities and their indications, the course will progress through an organ system based review of normal radiographic anatomy and pathologic findings.

PAFY 4208 Laboratory Diagnostics (2 Credits)

Introduction to laboratory diagnostic testing. The course will review indications for testing, normal results, and common pathologic findings discovered in testing blood, urine, stool, cerebrospinal fluid, synovial fluid and other body fluids. Students will have the opportunity to practice laboratory procedures including phlebotomy, urinalysis and guaiac testing for occult blood.

PAFY 4999 Independent Study (1 Credit)

PTFY 4150 Physiology I - Fnd Hum Physio (2 Credits)

This course presents human physiology for the analysis of normal function and adaptive/restorative function available in the presence of health affecting the skeletal, connective tissue, muscular, integumentary, nervous, and other biological systems. Information will be presented at the tissue, organ and system level.

PTFY 4160 Kinesiology I - Bio Hum Motion (2 Credits)

This course presents the application of basic principles of physics, anatomy, and physiology to understand human movement. The development and function of the musculoskeletal system (bone, muscle, and ligaments), the mechanical behavior of these biological tissues, the external/internal forces that contribute to normal motion provides the groundwork for understanding, describing and analyzing the biomechanics of human motion.

PTFY 4170 Crit Think - Clin Reason Proc (1 Credit)

This course introduces the student to the cognitive strategies and processes utilized to (1) collect and interpret information needed to understand a patient's problem/situation, (2) plan and implement appropriate interventions, (3) evaluate the outcomes and (4) reflect on the effectiveness of the reasoning process. Basic clinical and critical reasoning models in the context of patient centered health care and working in a healthcare team is emphasized.

PTFY 4180 Prof Roles in Physical Therapy (3 Credits)

The course introduces the student to the physical therapy profession. Five themes of professional practice are explored; the physical therapist as clinician, consumer of research, inter-professional care provider, lifelong learner and educator. Foundational skills in written and oral communication, professional values and behaviors, population-specific differences, utilization of healthcare informatics and evidenced-based practice are presented.

PTFY 4240 Therapeutic Interventions I (2 Credits)

This course introduces the student to the application of physical therapy intervention skills as part of the treatment process. Emphasis is placed on developing skills in fundamental patient care. Students will be introduced to basic manual therapy techniques, therapeutic exercise, and functional training to achieve patient/client goals & outcomes that address problems resulting from evaluation of the movement system.

PTFY 4250 Human Physiology II (2 Credits)

This course examines the concepts of pathophysiology and the mechanisms of change that contribute to the genesis of a diseased state. Common diseases and disorders are covered and clinical laboratory measurements and values used in differential diagnosis will be presented from a systems perspective. Clinical cases will be used to present standard patterns of clinical examination, evaluation, diagnosis, prognosis, intervention and communication/referral with other health care practitioners. Discussions will address changes in response to disease or trauma across the lifespan.

PTFY 4260 Kinesiology II (3 Credits)

This course builds knowledge and skills in application of biomechanical principles relative to human motion through regional analysis of body segments. Attention is paid to synovial joints as key linkage in the human mechanical system and how their movements are created and governed. The laboratory component of this course reviews individual joint structure and its application to segmental and overall body movement.

PTFY 4270 Human Anatomy (5 Credits)

This cadaveric-based human anatomy course is designed to develop knowledge concerning structural and functional regional gross human anatomy. The course focuses on the clinical application of anatomical concepts in both lectures and laboratory sessions. Structured laboratory sessions also incorporate the use of models, medical terminology and palpation of key anatomical structures. The course utilizes case-based vignettes to promote critical thinking and allow students to apply theory to a clinical population.

PTFY 4280 Clin Assessment - Diag Skl I (3 Credits)

The course facilitates skills acquisition in basic elements of patient examination and professional physical therapy practice. Emphasis is placed on elementary physical therapy examination of the non-medically complex patient. This includes systems screening, selection and performance of basic tests and measures for function, the integumentary, cardiovascular – pulmonary and musculoskeletal systems, interpretation and evaluation of examination findings, differential diagnosis, development of an individualized plan of care, appropriate referrals and effective communication of patient/client information.

PTFY 4290 Critical Inquiry I (2 Credits)

This course is designed to provide students with a working knowledge of the evidence-based research process and its importance in the practice of physical therapy. Students will learn about the variety of research publications and apply the critical appraisal process to the literature.

PTFY 4330 Neuroscience (3 Credits)

This course will cover the basic structure, organization, and function of the central nervous system (CNS). Learning experiences focus on understanding the localization of function within specific structures and pathways of the brain and spinal cord, and typical syndromes associated with vascular accidents, trauma or diseases of the various parts of the CNS.

PTFY 4340 Therapeutic Interventions II (3 Credits)

This course promotes the development of clinical skills related to functional mobility and movement in the home and community including transfers, ambulation, and use of wheelchairs and assistive devices for locomotion and various other activities of daily living (ADL). Therapeutic exercise interventions will be utilized to achieve patient/client goals & outcomes that address problems resulting from evaluation of the movement system.

PTFY 4350 Physiology III - Bioenergetics (2 Credits)

This course presents both the normal and pathological human body responses to physiological conditions and processes in relationship to their influence on human movement including the nutritional and metabolic mechanisms in relation to movement & functional activities. Included are the study of muscle physiology, metabolism, cardiovascular and respiratory adaptations, aging, thermoregulation, aerobic and anaerobic training exercise prescription, and use of ergogenic aides. Topics will focus on evaluation and management for a healthy population as well as for those with chronic diseases and disabilities.

PTFY 4360 Kinesiology III - Posture Gait (3 Credits)

This course provides continued instruction in the study of human movement with regards to posture, balance and gait. The neuromuscular and musculoskeletal mechanisms involved in the development, maintenance and adaptations of posture, balance, and walking will be presented. Students will participate in the assessment of normal and deviated walking, balance and posture including identification of compensatory mechanisms.

PTFY 4370 Comm Htlh-Wellness Outreach I (1 Credit)

This course offers experiential learning in community Health and Wellness outreach while increasing students' awareness of practice settings and offers opportunities for interprofessional collaboration. The course will focus on community assessment utilizing Health/Wellness screening tools appropriate for target populations

PTFY 4380 Clin Assessment Diag Skl II (3 Credits)

This course promotes skill acquisition in elements of physical therapy services and professional practice with an emphasis on physical therapy examination, including systems screening of the medically complex, but hemodynamically stable, patient, with a focus on the neurological and musculoskeletal systems including the extremities, trunk and spine and their relationship to posture, balance and gait. Included are the selection and performance of appropriate tests and measures, interpretation and evaluation of examination findings including differential diagnosis, clinical decision making in the establishment of an individualized plan of care to restore normal movement and functional mobility, referrals and effective communication of patient/client information.

PTFY 4390 Critical Inquiry II (2 Credits)

This course is a continuation of Critical Inquiry I and includes experimental and non-experimental research designs, methodology and statistical concepts. Students will continue to search for evidence and critically appraise it specifically for application to clinical diagnosis, prognosis and treatment effectiveness. Students develop the skills needed to ask and answer clinical questions using best evidence and practice using sample data and statistical software.