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Crowe; Gonzales; Lesciotto; Lovely; Maddux; Menegaz; Patterson; Perchalski; Reeves; Rosales.

Structural Anatomy and Rehabilitation Sciences (SARS) focuses on the integration of anatomical form with biomechanical function using advanced experimental, computational, and clinical tools. Major research foci in the SARS discipline include: (1) functional morphology or the study of form-function relationships, evolutionary/adaptive significance, and mechanical behaviors of musculoskeletal tissues; (2) biomechanics, movement science, and neuromuscular integration; (3) clinical anatomical studies linked to applications in orthopedics and physical therapy; (4) the analysis, design, and/or development of rehabilitation protocols, assessment tools and techniques, assistive devices, and instrumentation used in rehabilitation practice; and (5) studies of educational pedagogy in anatomy/movement science through the development of unique educational tools, techniques, and assessment strategies. SARS offers research opportunities, coursework, and teaching experiences that will develop and train students who will be qualified to serve as faculty members, researchers, and clinicians in various departments at health science centers, universities, and other research organizations.

All students entering the discipline will complete an integrated biomedical science core curriculum that includes fundamental principles of biochemistry, cellular and molecular biology, microbiology and immunology, pharmacology, physiology, and neurobiology. Beginning with the second semester, students will enroll in additional advanced courses for the discipline such as Applied Biomechanics, Structural Anatomy of the Musculoskeletal System, Structural Neuroscience, and other advanced elective courses, to be completed during their graduate career. Students are required to participate in seminars, work in progress (WIP) presentations, and journal club for the duration of their graduate career. Students will conduct original, publishable research and will be expected to present their results at the annual UNTHSC Research Appreciation Day (RAD) and at national scientific conferences.

The completion of the M.S. degree typically requires two to three years; the Ph.D. degree is generally completed in four to five years. Graduates with advanced degrees typically find employment in higher education, industry and government agencies.
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Assistant Professor, Physiology and Anatomy

Dr. Lesciotto's research spans three areas: anatomy education, craniofacial growth and development, and forensic anthropology. Alongside colleagues at multiple institutions, Dr. Lesciotto has investigated the impact of the Covid-19 pandemic on anatomy education and how educators handled the shift of a traditionally hands-on, three-dimensional learning environment in a dissection lab to two-dimensional online modalities. This project has expanded to explore how adaptations to learning during Covid-19 may have fundamentally altered pedagogical philosophies within anatomy and medical education. Dr. Lesciotto's research on craniofacial growth focuses on pre-

Assistant Professor, Physiology and Anatomy
Full Member, Graduate Faculty

Dr. Menegaz's research explores the growth and function of the mammalian masticatory apparatus.

Assistant Professor, Physiology and Anatomy
Associate Member, Graduate Faculty

Dr. Perchalski's research centers on the kinematics of locomotion and early primate adaptations for arboreal environments. Dr. Perchalski utilizes comparative experimental methodology and has worked with numerous species of strepsirrhines at the Duke Lemur Center. Their research on living animals acts to demonstrate the relationship between morphology, body mass, and locomotor behavior in response to specific environmental stimuli. Currently, Dr. Perchalski is most interested in how primates manage the rotational forces of torque as they descend steep supports. In addition to experimental research, Dr. Perchalski has paleontology field experience working in early to middle Eocene deposits in Wyoming and has visited several museum collections to study early adapiforms and extant lemurs. Dr. Perchalski has also published with colleagues on the response of trabecular bone to repetitive loading behaviors and the ontogenetic emergence of asymmetry in human long bones.

Professor, Family and Osteopathic Manipulative Medicine
Full Member, Graduate Faculty

Dr. Patterson's background is in biomedical engineering, with specific training and expertise in applied research in Orthopaedics, human performance, and rehabilitation. She has a unique perspective that can bridge and facilitate technology development in clinical settings and applications. In the department of Orthopaedic Surgery and Rehabilitation at the University of Texas Medical Branch in Galveston TX, she had a successful partnership for 20 years with a hand surgeon investigating the anatomic, biomechanic and kinematics of the carpal bones and the upper extremity. She also worked closely with upper extremity physical therapists and rehabilitation science specialists to understand hand function. At UNTHSC, Dr. Patterson works in the Human Movement Performance laboratory. This lab is devoted to improving knowledge of musculoskeletal function in order to assist physicians in the diagnosis and treatment of medical problems. The goals include improved clinical measurements of biomechanical function, objective methods of evaluation, treatment, and therapy, and mathematical/computer models of muscle, joint, and bone mechanics.!

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Professor, Physiology and Anatomy
Full Member, Graduate Faculty

Dr. Reeves' research includes collaboration with physical therapists, orthopedic surgeons, and clinicians to investigate pathological issues from an anatomical and biomechanical perspective. Recent research involves ultrasound diagnosis of ankle injuries and surface mapping of the dorsal scapular nerve for use in pain management. Other areas of interest include K-12 science outreach programs for teachers and students interested in the biomedical sciences. Dr. Reeves is also involved with clinical skills training of area health care professionals utilizing cadavers from the Center's Willed Body Program. The Center for Anatomical Sciences houses the institution's BioSkills Laboratory which offers numerous clinical training activities and serves as a research facility for graduate students, faculty, and orthopedic surgeons in the Dallas-Fort Worth area.

Associate Professor, Physiology and Anatomy
Associate Member, Graduate Faculty

Dr. Rosales has 31 years of experience teaching gross anatomy to medical, nursing, physical therapy, physician assistant, and graduate students. His research interest are directed toward the development of multimedia teaching tools for use in the anatomical sciences through carefully supervised quality cadaver prosections for digital image processing. Other research interests include participation in workshops for area science teachers and high school students which are designed to elevate their interest in science and medicine.

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A student who receives not more than one "C" in the first semester (BMSC 6201, 6202, 6203, or 6204) and maintains an overall GPA of 3.0 or better after the first semester of graduate study will be allowed to join the Structural Anatomy and Rehabilitation Sciences discipline. Ph.D. students in SARS who are in good academic standing will take the Oral Qualifying Examination in the fall of Year 2, following the successful completion of the discipline-specific required courses.

SARS discipline-specific required courses
PHAN 6308 (Applied Biomechanics) (offered Spring)
PHAN 6340 (Structural Anatomy of the Musculoskeletal System) (offered Fall)
PHAN 5630 (Structural Neuroscience) (offered Fall)

A grade of "A" or "B" in these courses is required. A student who receives a "C" in one of the discipline-specific required courses, but who is otherwise in good academic standing with an overall GPA of at least 3.0, will be allowed to self-remediate the course once. A student who receives two or more "C's" in the discipline-specific required courses must retake those courses in their entirety the following year. A Ph.D. student must receive an "A" or "B" in these courses, or successfully self-remediate or retake the courses, before taking the Oral Qualifying Examination.

PHAN 5130 – Seminars in Structural Anatomy & Rehabilitation Sciences
PHAN 6150 – Structural Anatomy & Rehabilitation Sciences Journal Club

Students are required to register for the Seminars in Structural Anatomy & Rehabilitation Sciences course (PHAN 5130) in the spring of Year 1. Starting in Year 2, all M.S. and Ph.D. students are expected to present their research in the Seminars course

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The degree plan must include a minimum of 3 SCH of advanced courses for M.S. students and 6 SCH of advanced courses for Ph.D. students in addition to the SARS-discipline specific required courses. Elective courses may be chosen from the following (courses from other departments or disciplines can be substituted according to the research interests of the student):

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PHAN 6000 – Teaching Practicum (1 SCH)

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The research proposal is a detailed outline of the thesis project. It must include a summary of the proposed project, the hypothesis and aims to be investigated, significance and innovation of the project, research design and methodology to be used, a review of the salient literature that supports or opposes the hypothesis, and potential limitations. To take advantage of the advisory committee's expertise and advice, and to clearly define the project and the committee's expectations, it is imperative that the student meets wi (h),

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advisor, and department chair upon completion of the exam. The appropriate form may be obtained from the SBS Forms and Guidelines website.

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The annual research progress report is a formal meeting where the student and advisory committee meet to evaluate the students progress. The student is expected to meet with their advisory committee a minimum of once per academic year, but is encouraged to meet more regularly as may be appropriate.

The yearly progress meeting is intended to help students focus on their personal academic goals within their selected academic field. Please see the SBS Forms and Guidelines website for the rubric associated with this yearly milestone. Students are expected to present a formal update of the research progress made during the previous year, as well as any updates on other activities and achievements from the previous year. This report will allow the student to reflect on their academic year and their research progress. During this meeting, faculty may advise the student on how best to improve. Again, this meeting is to help teach the student how to create and manage their research agenda.

Yearly progress reports are due no later than the last day of the summer semester as defined by the most current academic years calendar. However, it is strongly encouraged that students submit at least a month early.

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The individual development plan (IDP) is a tool to help a student focus on how to leverage their expertise into a satisfying and producti.2 (ve) 07411R..TJ ET Q 15 (iTS0.2 (n) Tf [(pt) 0. (pt) 0

Important dates for graduation can be found on the SBS website.