The following graduate degrees are offered in the department.

**Master of Science (MS) in Athletic Training:** is an entry-level athletic training program for students who do not hold a bachelor's degree in athletic training but who wish to pursue athletic training credentials by the Board of Certification (BOC) and pursue a career as a Certified Athletic Trainer (ATC). Admission to the Master of Science in Athletic Training (MSAT) program at Texas A&M University is selective and competitive with the total number of students accepted each year based on space availability. Students wishing to pursue a Master of Science degree in Athletic Training must apply and meet all general requirements for admission to the Graduate School of Texas A&M University and the Department of Health and Kinesiology's MSAT program. Acceptance by the Graduate School does not guarantee acceptance into the MSAT Program. For application requirements and prerequisites, visit the MSAT program webpage at http://graduateathletictraining.tamu.edu.

Once admitted into the Master of Science in Athletic Training program, students must meet the retention and progression criteria for the program as described on the MSAT program webpage (http://hlknweb.tamu.edu/sites/hlknweb.tamu.edu/files/Retention%20and%20Progression.pdf).

**Joint Bachelor of Science/Master of Science (BS/MS) in Health Education:** Allows for a seamless transition from the B.S. degree to the MS degree for exceptional undergraduate students. The program is designed to prepare advanced level health educators.

**Master of Science (MS) in Health Education:** is a theory-based degree that provides advanced training with emphases in health education. There are non-thesis and thesis options.

**Master of Science (MS) in Kinesiology:** provides advanced training in the general area of kinesiology with an emphasis on research. Within this broad option, students may elect more specialized study in clinical exercise physiology, exercise physiology, motor behavior, sport pedagogy and sport physiology. Both thesis and non-thesis options are offered.

**Master of Science (MS) in Sport Management:** provides advanced training in the general area of sport management. Both thesis and non-thesis options are offered.

**Doctor of Philosophy (PhD) in Health Education:** prepares students for research in health education. Graduates may aspire to research-oriented positions in public or higher education and schools of allied health as well as voluntary or governmental health and/or safety agencies. Graduates of this program are prepared for careers in teaching and research in each of these areas.

**Doctor of Philosophy (PhD) in Kinesiology:** prepares students for post-doctoral appointments and positions in universities, industry, the military and research institutes. Graduates are trained for teaching and research careers in the following specialization.

**Exercise Physiology:** The program prepares students to conduct research in basic and applied exercise physiology. Emphases in the applied programs are in neuromuscular efficiency and control, cardiorespiratory response to exercise, exercise and lipid metabolism, and changes in bone structure and metabolism in response to exercise as well as disuse, bed rest and micro gravity. Emphases in basic research include mechanisms of exercise-induced injury, neuromuscular efficiency, muscle blood flow, muscle metabolism and free radical stress, and the molecular biology of bone adaptation to stress.

**Motor Behavior:** The program is experimentally oriented and is specifically designed to provide students with a thorough foundation in the theoretical processes that assist the performance and learning of perceptual-motor skills. Emphases in motor learning, motor control and motor development are offered.

**Sport Management:** The program prepares students to conduct research in applied and basic areas of sport management. Emphases in the applied areas are in organizational and group diversity; the under-representation of women and ethnic minorities in sport organizations; organizational effectiveness; organizational structure and strategy; organizational change; sport marketing; and consumer behavior. Emphases in the basic areas focus on relational demography; intergroup processes; and sport consumer behavior. Special areas of research correspond to those of the sport management faculty.

**Sport Pedagogy:** This specialization prepares students to design and conduct research on teaching/teacher education and curriculum and instruction, with an emphasis on linking theory to physical education practice. Interdisciplinary collaboration and research across the College of Education and Human Development are viewed as integral components of the sport pedagogy program.

### Faculty

- **Alvarez, Andrea**, Instructional Assistant Professor
  Health & Kinesiology
  MFA, Case Western Reserve University, 2016

- **Apostolopoulos, Yiorgos**, Associate Professor
  Health & Kinesiology
  PHD, University of Connecticut, 1994

- **Armstrong, Carisa L**, Clinical Associate Professor
  Health & Kinesiology
  MFA, Case Western Reserve University, 2002

- **Baletka, Dawn M**, Instructional Assistant Professor
  Health & Kinesiology
  PHD, Sam Houston State University, 2006

- **Ballard, Danny J**, Adjunct Professor
  Health & Kinesiology
  PHD, Oklahoma State University, 1982

- **Ballouli, Khalid W**, Adjunct Assistant Professor
  Health & Kinesiology
  PhD, Texas A&M University, 2011

- **Barry, Adam**, Associate Professor
  Health & Kinesiology
  PHD, Texas A&M University, 2007

- **Batista, Paul J**, Associate Professor
  Health & Kinesiology
  JD, Baylor University, 1976
Bedford, Diane C, Clinical Assistant Professor
Health & Kinesiology
MFA, Florida State University, 2010

Bennett, Gregg R, Professor
Health & Kinesiology
PHD, Auburn University, 1997

Bergeron, Christine S, Clinical Professor
Health & Kinesiology
MFA, Florida State University, 1998

Bloomfield, Susan A, Professor
Health & Kinesiology
PHD, The Ohio State University, 1992

Boucher, Anthony M, Clinical Associate Professor
Health & Kinesiology
PHD, Texas Woman's University, 2008

Brison, Natasha T, Assistant Professor
Health & Kinesiology
PHD, University of Georgia, 2015
JD, University of Georgia School of Law, 1998

Buchanan, John J, Professor
Health & Kinesiology
PHD, Florida Atlantic University, 1996

Campbell, August J, Instructional Assistant Professor
Health & Kinesiology
PHD, Texas State University, 2005

Chen, Lei-Shih, Associate Professor
Health & Kinesiology
PHD, Texas A&M University, 2007

Clark, Heather R, Clinical Assistant Professor
Health & Kinesiology
PHD, Texas A&M University, 2014

Crouse, Stephen F, Professor
Health & Kinesiology
PHD, The University of New Mexico, 1984

Cunningham, George B, Professor
Health & Kinesiology
PHD, The Ohio State University, 2002

Deutz, Nicolaas, Professor
Health & Kinesiology
MD, University of Amsterdam, 1988

Dixon, Marlene A, Professor
Health & Kinesiology
PHD, The Ohio State University, 2002

Dixon, Mary O, Clinical Assistant Professor
Health & Kinesiology
PHD, Texas A&M University, 2011

Elliot, John F, Clinical Associate Professor
Health & Kinesiology
PHD, University of Virginia, 1998

Engelen, Marielle P, Associate Professor
Health & Kinesiology
PHD, Maastricht University, Netherlands, 2000

Fehr, Sara K, Clinical Assistant Professor
Health & Kinesiology
PHD, University of Cincinnati, 2015

Fluckey, James D, Professor
Health & Kinesiology
PHD, The Pennsylvania State University, 1995

Gabbard, Carl P, Senior Professor
Health & Kinesiology
PHD, North Texas State University, 1977

Garney, Whitney R, Assistant Professor
Health & Kinesiology
PHD, Texas A&M University, 2015

Gilreath, Tamika D, Associate Professor
Health & Kinesiology
PHD, The Pennsylvania State University, 2007

Goodson, Patricia, Professor
Health & Kinesiology
PHD, The University of Texas at Austin, 1996

Green, John S, Clinical Professor
Health & Kinesiology
PHD, Texas A&M University, 1996

Green, Lisa L, Adjunct Assistant Professor
Health & Kinesiology
PHD, Texas Woman's University, 2001

Greenwood, C Michael, Clinical Professor
Health & Kinesiology
PHD, Texas Woman's University, 1990

Greenwood, Lori, Clinical Professor
Health & Kinesiology
PHD, Oregon State University, 1995

Guidry, Jeffrey J, Associate Professor
Health & Kinesiology
PHD, The University of Texas Health Science Center at Houston, 1994

Harvey, Idethia S, Associate Professor
Health & Kinesiology
PHD, University of Pittsburgh, 2014

Hudson, Shane L, Clinical Professor
Health & Kinesiology
PHD, Texas A&M University, 2007

Kalbasi, Shaida, Instructional Assistant Professor
Health & Kinesiology
PHD, Texas A&M University, 2015

Keiper, Paul, Clinical Associate Professor
Health & Kinesiology
EDD, Texas A&M University, 2002
Courses

KINE 601 Reading Research Publications in Kinesiology
Credits 3.3 Lecture Hours.
Instruction in, and development of, research skills through the study of published reports and readings in kinesiology.

KINE 606 Motor Neuroscience I
Credits 3.3 Lecture Hours.
Neurophysiology of the neuromuscular system with emphasis on motor control; topics include organization of the CNS; reflexes; integration of sensory information; experimental approaches to study neuromuscular control and neurophysiology of contemporary motor control theories.
Prerequisite: KINE 406 or equivalent.

KINE 609 Professional and Career Development in Health and Kinesiology
Credits 3.3 Lecture Hours.
Development of skills and knowledge on developing an academic and research career; structure of academics; strategies for securing an academic position; tenure and promotion process.
Prerequisite: Graduate classification.

KINE 614 External Research Fund Development
Credits 3.3 Lecture Hours.
Preparation of external research funding applications with emphasis on NIH proposals and other external funding sources; methods and commonly used processes of federal grant review and the funding decision process.
Prerequisite: Graduate classification.

KINE 622 Supervision of Health and Kinesiology
Credits 3.3 Lecture Hours.
Principles and processes of supervision; in-service training of personnel.

KINE 623 Administration of Health and Kinesiology
Credits 3.3 Lecture Hours.
Administration of comprehensive programs of kinesiology in higher education settings.

KINE 624 Pedagogical Research in Teaching/Physical Education
Credits 3.3 Lecture Hours.
Examine pedagogical research in education and relate to the specialty area of physical education; study key research paradigms that now influence inquiry in physical education and link to current practices in effective teaching.
Prerequisites: Graduate classification and approval of instructor.

KINE 626 Exercise for Clinical Population
Credits 3.3 Lecture Hours.
Principles relevant to exercise programming for persons with chronic disease/disability; includes information for each condition: pathophysiology, effect on exercise response, effects of exercise on disease process, and recommendation for exercise testing and programming.
Prerequisite: KINE 433 or instructor approval.

KINE 628 Nutrition in Sport and Exercise
Credits 3.3 Lecture Hours.
Interaction between nutrition, exercise, and athletic performance; including: biochemical and physiological aspects of nutrition and exercise; nutrition for training and competition; exercise and oxidant stress; nutritional supplements and ergogenic acids; and nutritional aspects of body composition and weight control.
Prerequisite: Graduate classification; BIOL 320, KINE 433 or approval of instructor.

Masters

- Master of Science in Athletic Training (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/education-human-development/health-kinesiology/athletic-training-ms)
- Master of Science in Health Education (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/education-human-development/health-kinesiology/health-education-ms)
- Master of Science in Kinesiology (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/education-human-development/health-kinesiology/kinesiology-ms)
- Master of Science in Sport Management (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/education-human-development/health-kinesiology/sport-management-ms)

Doctoral

- Doctor of Philosophy in Health Education (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/education-human-development/health-kinesiology/health-education-phd)
- Doctor of Philosophy in Kinesiology (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/education-human-development/health-kinesiology/kinesiology-phd)
KINE 629 Physiology of Strength and Conditioning  
Credits 3. 3 Lecture Hours.  
Physiological, bio-mechanical, and metabolic aspects of muscular strength and conditioning programs for various athletic and non-athletic populations; review of resistance training based on scientific literature; promote the use of a structured scientific approach in the prescription of progressive resistance training.  
Prerequisite: Graduate classification, BIOL 320; KINE 433 or approval of instructor.

KINE 630 Periodized Models  
Credits 3. 3 Lecture Hours.  
Scientific principles and procedures relating to detailed cutting edge periodized training designs; emphasis on researched based periodized program designs and implementation regarding the background/history, concepts, variations and application of relevant periodization models.  
Prerequisite: Graduate classification or approval of instructor.

KINE 631 Specialized Strength and Conditioning Techniques  
Credits 3. 3 Lecture Hours.  
Research based physiological responses and adaptations associated with power, speed, quickness, flexibility and mobility; laboratory demonstration/implementation and specific practical experiences based on available scientific research. Practical mastery as well as theoretical understanding required.  
Prerequisite: KINE 629 or approval of instructor.

KINE 637 Exercise Physiology I  
Credits 3. 3 Lecture Hours.  
Functional changes brought about by acute and chronic exercise; topics include muscle structure/function, energy transduction, biochemistry of exercise, muscle mechanics, fatigue and adaptation.  
Prerequisite: KINE 433 or equivalent.

KINE 638 Exercise Physiology II  
Credits 3. 3 Lecture Hours.  
Functional changes brought about by acute and chronic exercise; topics include pulmonary and cardiovascular physiology, training and detraining, and special topics.  
Prerequisite: KINE 433 or equivalent.

KINE 639 Exercise Electrocardiography  
Credits 3. 3 Lecture Hours.  
Electrocardiography (ECG) for the exercise scientist; emphasis on recognition and interpretation of normal and aberrant ECG patterns encountered during the graded exercise test; physiologic mechanisms underlying the normal and abnormal ECG.  
Prerequisites: KINE 638 and 648 or approval of instructor.

KINE 640 Motor Neuroscience II  
Credits 3. 3 Lecture Hours.  
Contemporary theories of motor learning that link behavioral analysis to underlying neural correlates of control; topics include memory, physical, mental and observational practice; internal models, motor planning-programming; and self-organization in perception-action systems; emphasis on cognitive and behavioral neuroscience.  
Prerequisite: KINE 406 or equivalent.

KINE 641 Motor Neuroscience: Development Issues  
Credits 3. 3 Lecture Hours.  
Explores the contemporary developmental issues associated with motor behavior (perception to action) across the lifespan; topics include physical and neurological growth, perception, motor control, and environmental influence.  
Prerequisite: KINE 307 or equivalent.

KINE 642 Self-organization in Motor Neuroscience  
Credits 3. 3 Lecture Hours.  
Application of the concepts of non-linear dynamical systems theory and self-organization to the study of biological motion and learning; topics include perception-action coupling, phrase transitions and stability, sensori-motor transformations.  
Prerequisites: KINE 406 and KINE 641.

KINE 646 Fundamentals of Space Life Sciences  
Credits 3. 3 Lecture Hours.  
Integrates nutrition, physiology, and radiation biology to define major biological problems in long duration space flight; provide an overview of the problems of bone loss, muscle wasting, and radiation-enhanced carcinogenesis along with potential countermeasures; focus on nutritional interventions and exercise protocols.  
Cross Listing: NUTR 646 and NUEN 646.

KINE 647 Instrumentation and Techniques in Exercise Physiology I  
Credits 2. 1 Lecture Hour. 3 Lab Hours.  
Theory, experiments and demonstrations in exercise physiology; laboratory experience in the use of metabolic and biochemical instrumentation commonly found in a modern exercise physiology laboratory.  
Prerequisite: Concurrent enrollment in KINE 637.

KINE 648 Instrumentation and Techniques in Exercise Physiology II  
Credits 2. 1 Lecture Hour. 3 Lab Hours.  
Theory, experiments and demonstrations in exercise physiology; laboratory experience in the use of metabolic and biochemical instrumentation commonly found in a modern exercise physiology laboratory. A continuation of KINE 647.  
Prerequisite: KINE 637 or concurrent enrollment.

KINE 649 Applied Exercise Physiology  
Credits 3. 3 Lecture Hours.  
Investigate how the acute physiological responses to exercise and the chronic physiological adaptations to exercise training are altered by environmental factors—heat, cold, altitude, and microgravity, and by age and sex; addresses the physiological bases for reducing the risk of cardiovascular, metabolic and bone disease through physical activity.  
Prerequisite: KINE 433 or equivalent.

KINE 681 Seminar  
Credit 1. 1 Lecture Hour.  
Reports and discussions of topics of current interest in kinesiology.

KINE 682 Seminar in...  
Credit 1. 1 Other Hour.  
Reports and discussions of topics of current interest in kinesiology. Students may register in up to but not more than four sections of this course in the same semester.

KINE 683 Practicum in Kinesiology  
Credits 3. 3 Other Hours.  
Observation and study of rehabilitation and kinesiology programs in schools and other institutions. May be repeated twice for credit.  
Prerequisite: Approval of department head.

KINE 684 Professional Internship  
Credits 1 to 6. 1 to 6 Other Hours.  
Supervised experiences in application of formal training to performing professional functions consistent with career goals.  
Prerequisites: 12 semester hours of selected graduate work; approval of department head.
KINE 685 Directed Studies  
Credits 1 to 12. 1 to 12 Other Hours.  
Directed study of selected problems in kinesiology not related to thesis.  
May be repeated for credit.  
**Prerequisite:** Approval of department head.

KINE 689 Special Topics in...  
Credits 1 to 4. 1 to 4 Lecture Hours. 0 to 4 Lab Hours.  
Selected topics in an identified area of kinesiology. May be repeated for credit.  
**Prerequisite:** Approval of department head.

KINE 690/HLTH 690 Theory of Research in Discipline  
Credits 3. 3 Lecture Hours.  
Theory and design of research problems and experiments in various subfields of the discipline; communication of research proposals and results; evaluation of current research of faculty and students and review of current literature. May be repeated for credit.  
**Cross Listing:** HLTH 690/KINE 690.

KINE 691 Research  
Credits 1 to 23. 1 to 23 Other Hours.  
Research for thesis or dissertation.  
**Prerequisite:** Approval of committee chair.