

DOCTOR OF PHILOSOPHY IN KINESIOLOGY (BIOMECHANICS AND MOTOR BEHAVIOR)

Web Site: <https://twu.edu/kinesiology/graduate-programs/biomechanics/>

The Ph.D. in Kinesiology with an emphasis in Biomechanics and Motor Behavior prepares students with the experimental and analytical tools to be researchers and leaders. Well-equipped facilities in Pioneer Hall permit research studies on persons with and without disabilities in the areas of stress testing, body composition assessment, bone density, cardiovascular respiratory analysis, blood biochemistry analysis that includes glucose, lactate, insulin, C-peptide, and a variety of other hormones and metabolites; isokinetic, isometric, and isotonic strength testing; anthropometry; telemetry; and high-speed motion analysis.

Marketable Skills

Defined by the Texas Higher Education Coordinating Board's 60x30 Strategic Plan (<https://reportcenter.highered.texas.gov/agency-publication/miscellaneous/theeb-60x30-strategic-plan/>) as, "Those skills valued by employers that can be applied in a variety of work settings, including interpersonal, cognitive, and applied skills areas. These skills can be either primary or complementary to a major and are acquired by students through education, including curricular, co-curricular, and extracurricular activities."

1. Successfully solicit meaningful, noble biomechanical research questions.
2. Successfully plan and design biomechanical research studies with valid research hypotheses.
3. Successfully conduct biomechanical studies and draw valid conclusions.
4. Successfully disseminate and apply the research findings and bridge the gap between academia and practice.

Admissions

All students must meet the University requirements as outlined in the Admission to the TWU Graduate School (<http://catalog.twu.edu/graduate/graduate-school/admission-graduate-school/>) section of the catalog.

This academic program may have additional admission criteria that must also be completed as outlined on the program's website.

Degree Requirements

Total Semester Credit Hours Required

96 semester credit hours, including approved semester credit hours from master's level work and 6 semester credit hours for dissertation.

Code	Title	SCHs
Required Courses		
KINS 5033	Applied Statistical Principles (Research tools)	3

KINS 6043	Statistical Inference (Research tools)	3
KINS 6113	Seminar	3
KINS 6143	Research Design in Kinesiology (Research tools)	3
HSC 6831	Integration of Theory and Research in Health Sciences	1
Emphasis Area (Must select one)		77
Dissertation		
KINS 6983	Dissertation (I)	3
KINS 6993	Dissertation (II)	3
Total SCHs		96

Biomechanics and Motor Behavior Emphasis

Code	Title	SCHs
KINS 5513	Mechanical Analysis of Human Motion	3
KINS 6523	Advanced Biomechanics	3
KINS 6563	Human Motor Control	3
KINS 6573	Motor Learning and Performance	3
KINS 6623	Biomechanical Analysis I: Motion Analysis	3
KINS 6643	Biomechanical Analysis II: Data Acquisition and Instrumentation	3
KINS 6813	Advanced Research in Kinesiology (Taken 4 times)	12

Minor or Related Studies (As approved by Advisory Committee) 21

May include

MATH 5513	Matrix Algebra
MATH 5593	Differential Equations
MATH 5573	Statistical Methods I (Research Tools)
MATH 5583	Statistical Methods II (Research Tools)
MATH 5913	Independent Study
CSCI 5103	Fundamentals of Informatics
CSCI 5663	Statistical Programming (Research Tools)
CSCI 5913	Independent Study
PT 6913	Independent Study

Electives or Appropriate Coursework from Master's Degree (As approved by Advisory Committee) 26

May include

HS 5063	Aging and Health
HS 6403	Environmental Health
KINS 5123	Professional Affiliation
KINS 5203	Theory of Coaching
KINS 5263	Sport Psychology
KINS 5273	Sport Conditioning and Nutrition
KINS 5293	Technical Skills Analysis
KINS 5503	Physiological Responses During Alternative Modes of Exercise
KINS 5553	Advanced Exercise Physiology
KINS 5593	Environmental Exercise Physiology
KINS 5603	Growth and Perceptual Motor Development for Individuals with Low Incidence Disabilities
KINS 5613	Cardiovascular Response to Exercise
KINS 5693	Applied Techniques in Biomechanics and Exercise Physiology
KINS 5963	APA I: Disability Sport and Fitness

KINS 5883	APA II: Disability Sport and Fitness	
KINS 6813	Advanced Research in Kinesiology	
KINS 6903	Special Topics	
KINS 6913	Independent Study	
Total SCHs		77

Required Courses

13 semester credit hours.

Emphasis

77 semester credit hours, depending on emphasis area and recommendations of the Advisory Committee. Includes Minor or Related Studies and/or Electives and Appropriate Coursework from Master's Degree in consultation with the Advisory Committee.

Dissertation

Six semester credit hours.

Special Requirements

At least nine semester credit hours of course work must be taken outside the major.

Research Tools

The student in consultation with the Advisory Committee will determine 12 semester credit hours designated as research tools.

Qualifying Examination

The exam is comprised of four written sections over selected areas of the student's emphases and an oral defense of written responses. May be repeated once.

Final Examination

Oral examination conducted by the Dissertation Committee over the candidate's research after the dissertation is completed. May be repeated at the discretion of the committee.