July 2019

Texas A&M University
Department of Health and Kinesiology

Ph.D. in Kinesiology with an emphasis in Exercise Physiology

KINESIOLOGY CORE (required)		**Credit Hours**
KINE 681	Seminar	6
KINE 682	Doctoral Seminars in Exercise Science	4
KINE 684	Professional (Teaching) Internship	3
KINE 685	Directed Studies	12
KINE 690	Theory of Kinesiology Research	3
KINE 691	Research	18
		46 minimum

ADVISOR DIRECTED ELECTIVES — **12-13 minimum**

Electives must be chosen in consultation with the student's academic advisor from the list below.

STATISTICS CORE	
STAT 652 Statistics in Research II	3
STAT Electives Advisor Directed	2-3
	5-6 minimum

TOTAL SEMESTER HOURS REQUIRED FOR DEGREE — **64 minimum**

Advisor Directed Statistics Electives

STAT electives should be chosen in consultation with the student's academic advisor from the following courses.

ANSC 622	Research Methods in Animal Science	2
EPSY 651	Theory of Structural Equation Models	3
EPSY 653	Advanced Theory of Structural Equation Models	3
MSCI 611	Experimental Design for Biomedical Science	3
STAT 608	Regression Analysis	3
STAT 636	Applied Multivariate Analysis	3
STAT 653	Statistics in Research III	3
STAT 659	Applied Categorical Data Analysis	3

Advisor Directed Electives

Electives should be chosen in consultation with the student's academic advisor from the following courses. This list is not exhaustive, but serve as guidelines for many elective courses approved by the Exercise Physiology graduate faculty.

BICH 601	Fund Biochemistry I	3
BICH 602	Fund Biochemistry II	3
BICH 624	Enzymes, Proteins, & Nucleic Acids	3
BICH 631	Biochemical Genetics	3
BICH 650	Genomics	3
BIOL 613	Cell Biology	3
BMEN 605	Virtual Instrumentation Design Medical Systems	3
CHEM 601	Analytical Chemistry I	3
FSTC 607	Physiology & Biochemistry of Muscle as a Food	3
GENE 626	Analyses of Gene Expression	2
KINE 606	Motor Neuroscience I	3
KINE 609	Professional & Career Development Hlth & Kine	3
KINE 614	External Research Fund Development	3
KINE 626	Exercise for Clinical Populations	3
KINE 639	Exercise Electrocardiography	3
KINE 646	Fundamentals of Space Life Sciences	3
KINE 649	Applied Exercise Physiology	3
KINE 651	Intro to Human Clinical Research	3
KINE 689	Methods in Clinical Research	3
NFSC 613/ ANSC 613	Protein Metabolism	3
NFSC 617 ANSC 617	Experimental Techniques in Meat Science	3
NFSC 618/ ANSC 618	Lipids and Lipid Metabolism	3
NFSC 641	Nutritional Biochemistry I	3
NFSC 642	Nutritional Biochemistry II	3
VIBS 602	Histology	4
VIBS 603	Neuroanatomy	4
VIBS 604	Biomed Neuroendocrine & Endocrine Disorders	3
VIBS 607	Applied Epidemiology	4
VIBS 640	Neurobiology	1 to 5
VTPP 605	Systemic Veterinary Physiology I	5
VTPP 606	Systemic Veterinary Physiology II	5
VTPP 625	Pharmacology	3
VTPP 653	Endocrinology	4
VTPP 655	Vascular Physiology	4
VTPP 656	Physiology of the Heart	4
VTPP 657	Cardiovascular Physiology	4

RESEARCH EXPERIENCE REQUIREMENT

Prior to scheduling the dissertation proposal meeting each student will: a) have presented, as sole or first author, at least one presentation at a state, regional, or national conference; and b) will be an author on at least one research paper submitted to a peer-reviewed national or international journal. Also, before graduation it is expected that students will submit at least one first-authored manuscript derived from the dissertation to a national or international refereed journal(s).

MINIMAL HOUR REQUIREMENT

The Ph.D. requires a minimum of 64 hours beyond the Masters or 96 hours beyond the Baccalaureate degree. Depending on preparation and experience, doctoral students may be required to complete undergraduate and graduate leveling work in addition to the minimum Ph.D. requirements (see below).

MINIMUM PREREQUISITES OR COMPETENCIES

Refer to the Texas A&M University Graduate and Undergraduate Catalog for course descriptions. Competency in the content of the course is required rather than the specific course by number. The student applying to our graduate program is responsible to provide written evidence that these competencies have been met. Please note that courses taken on-line or at distance will not be accepted for laboratory-enhanced courses. The graduate office in the Department of Health and Kinesiology in consultation with graduate committee chairs/advisors will review transcripts to verify the evidence. Deficiencies in these competencies may necessitate the student taking course work in addition to the 64 semester hours required for the doctoral degree.

Undergraduate (for entering MS students)

BICH 410 - Comp Biochemistry I	BICH 412 - Biochemistry Lab I
BICH 411 - Comp Biochemistry II	
CHEM 119 - Fund of Chemistry I	CHEM 119 - Chemistry Lab I
CHEM 120 - Fund of Chemistry II	CHEM 120 - Chemistry Lab II
CHEM 227 - Organic Chemistry	
KINE 426 - Exercise Biomechanics	KINE 433 - Physiology of Exercise
MATH 131 – Calculus or equivalent	
PHYS 201 - College Physics	PHYS 202 - College Physics

BIOL 319 & 320 - Integrated Human Anatomy and Physiology I & II

Graduate (for entering Ph.D. students – in addition to MS competencies

KINE 601 - Reading Research Publications in Kinesiology

KINE 637 - Exercise Physiology I	KINE 647 - Instr & Tech in Ex Phys I
KINE 638 - Exercise Physiology II	KINE 648 - Instr & Tech in Ex Phys II
STAT 651 - Statistics in Research I	

Graduate level competencies in human systems physiology to include physiology of the cell, kidneys and body fluids, excitable membranes, nervous system, muscle and bone, digestion, heart and circulation, respiration, and the endocrine system.